



Top 20 pharma companies

MARKET INSIGHTS SERIES # 19

Performance & Strategies

September 2021

This document proposes a review of global pharma trends by 2025 and an analysis of top 20 pharma companies' performance and strategies

Introduction

Smart Pharma Consulting proposes to address the following issues:



What is the structure of the global pharma market and how should it evolve by 2025?



What has been the recent performance of the top 20 pharma companies worldwide?



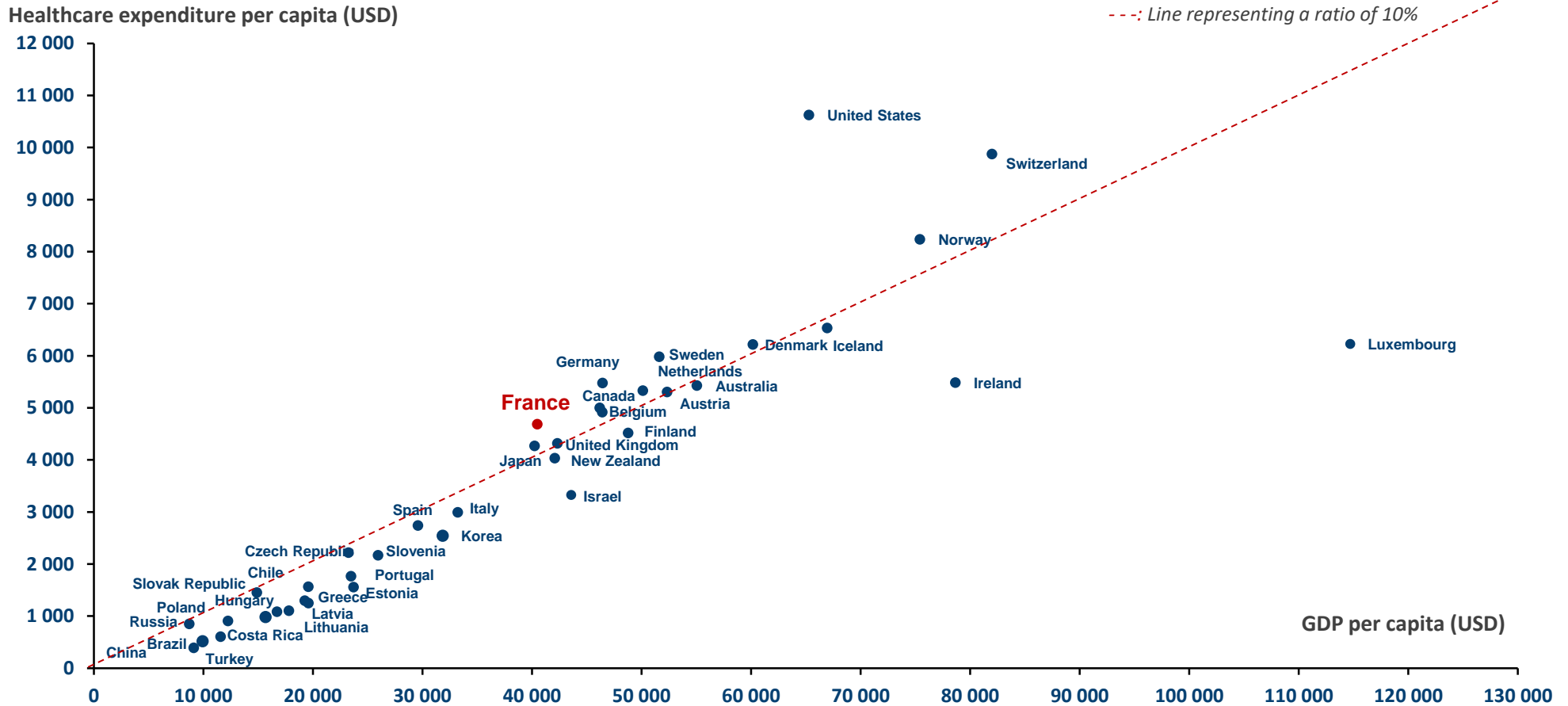
What are the current portfolio strategies of the top 20 pharma companies worldwide?



What have been the objectives pursued by the top 20 pharma companies in their recent M&A deals?

Healthcare expenditure and GDP¹ per capita are highly related and the ranking² of France (#15 and #19 respectively) shows that healthcare is a key national priority

Relation between GDP and healthcare expenditure per capita (2018*)



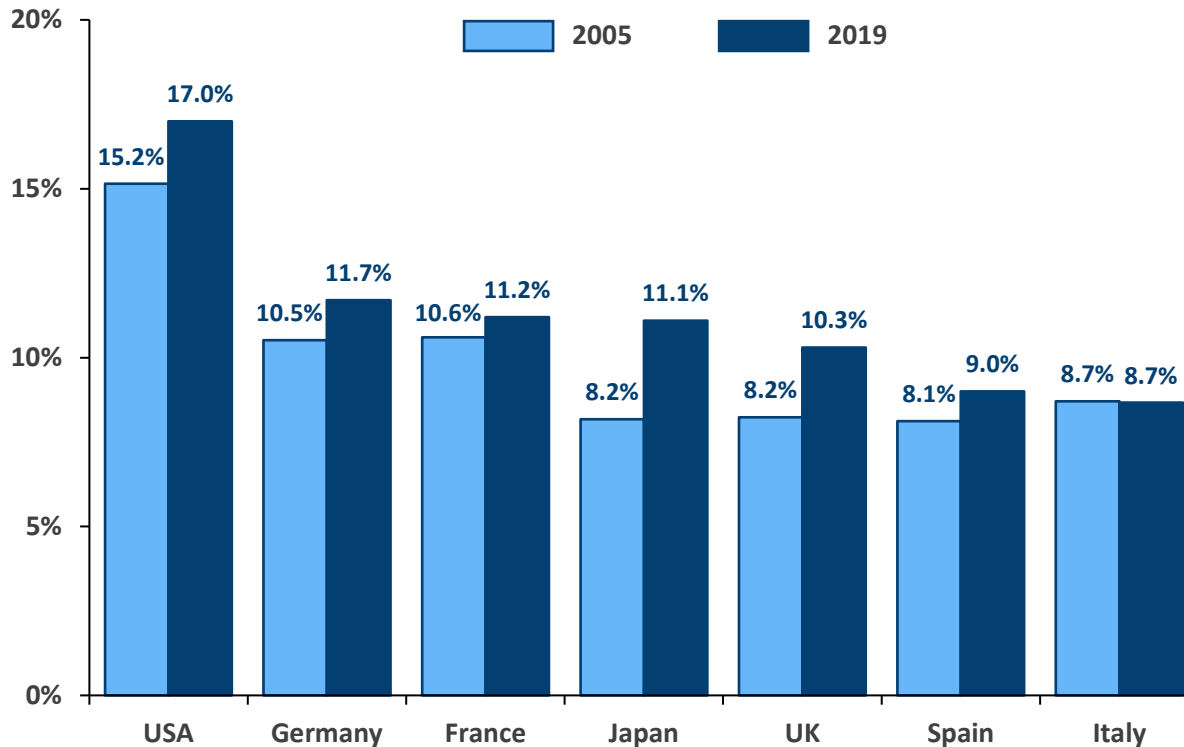
Sources: World Bank database (March 2021) – Smart Pharma Consulting analyses

¹ Gross Domestic Product – ² Amongst 44 countries in the world – *Or latest data available for all countries

Healthcare expenditure should keep on growing faster than national economies due to demographic factors and willingness of citizens to have better access to healthcare

Healthcare expenditure as a percentage of GDP (2019*)

Total healthcare expenditure as a % of GDP (Local currency)



- Healthcare expenditure represents one of the largest public spending items in most developed economies: 1st (USA), 2nd (France, Germany, Japan and UK)¹ and 3rd (Italy and Spain)²
- At best, governments and payers will manage to slow down the rise of healthcare expenditure as a percentage of GDP but not to stop it
- There is no optimal ratio of healthcare expenditure over GDP
- This ratio primarily results from:
 - Public health conditions
 - Governments’ investment prioritization
 - Citizens’ willingness to seek for care
 - Healthcare cost

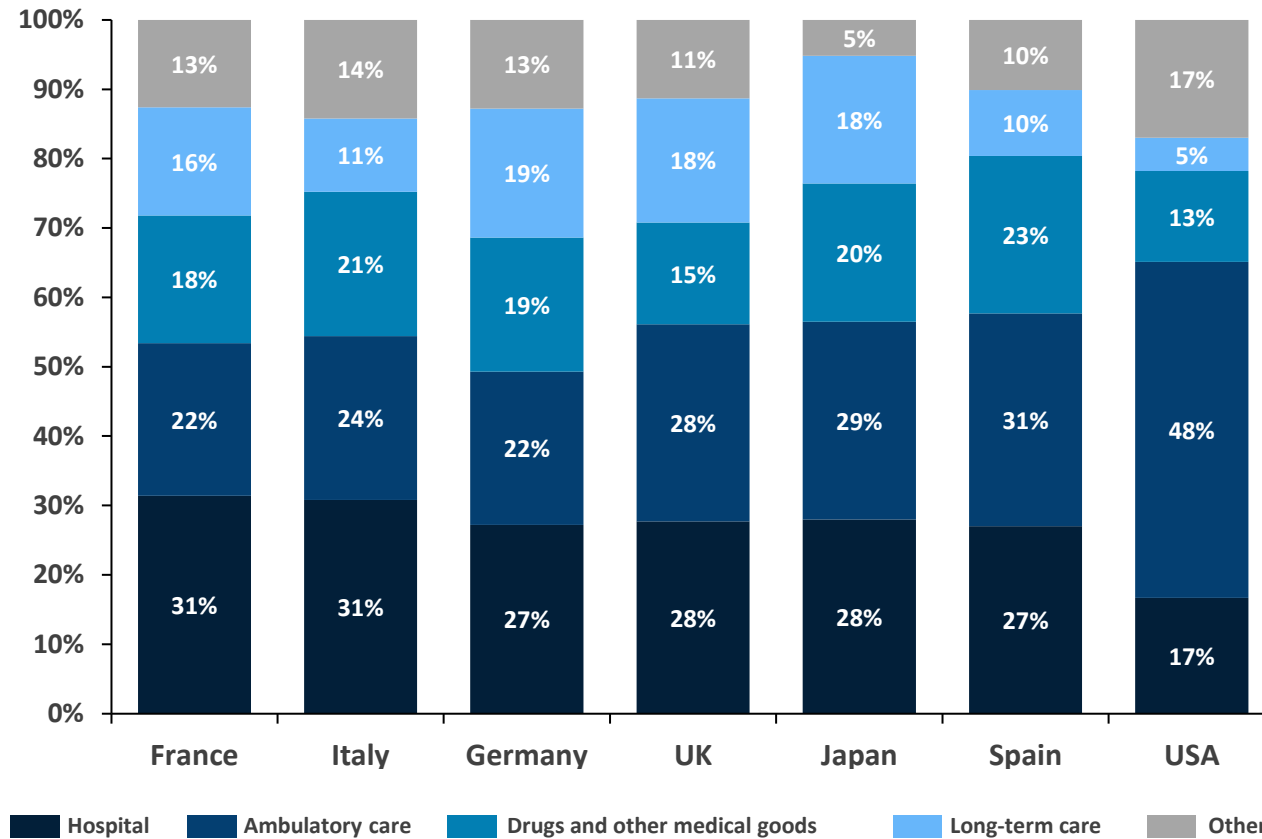
Sources: OECD database (March 2021) – Smart Pharma Consulting analyses

¹ After social protection – ² After social protection and general public service – *Or latest data available for all countries

The cost of drugs is far behind that of hospital and ambulatory care, yet this segment is targeted by governments because it is technically and politically easier to control

Breakdown of healthcare expenditure per country (2019*)

% of total healthcare expenditure



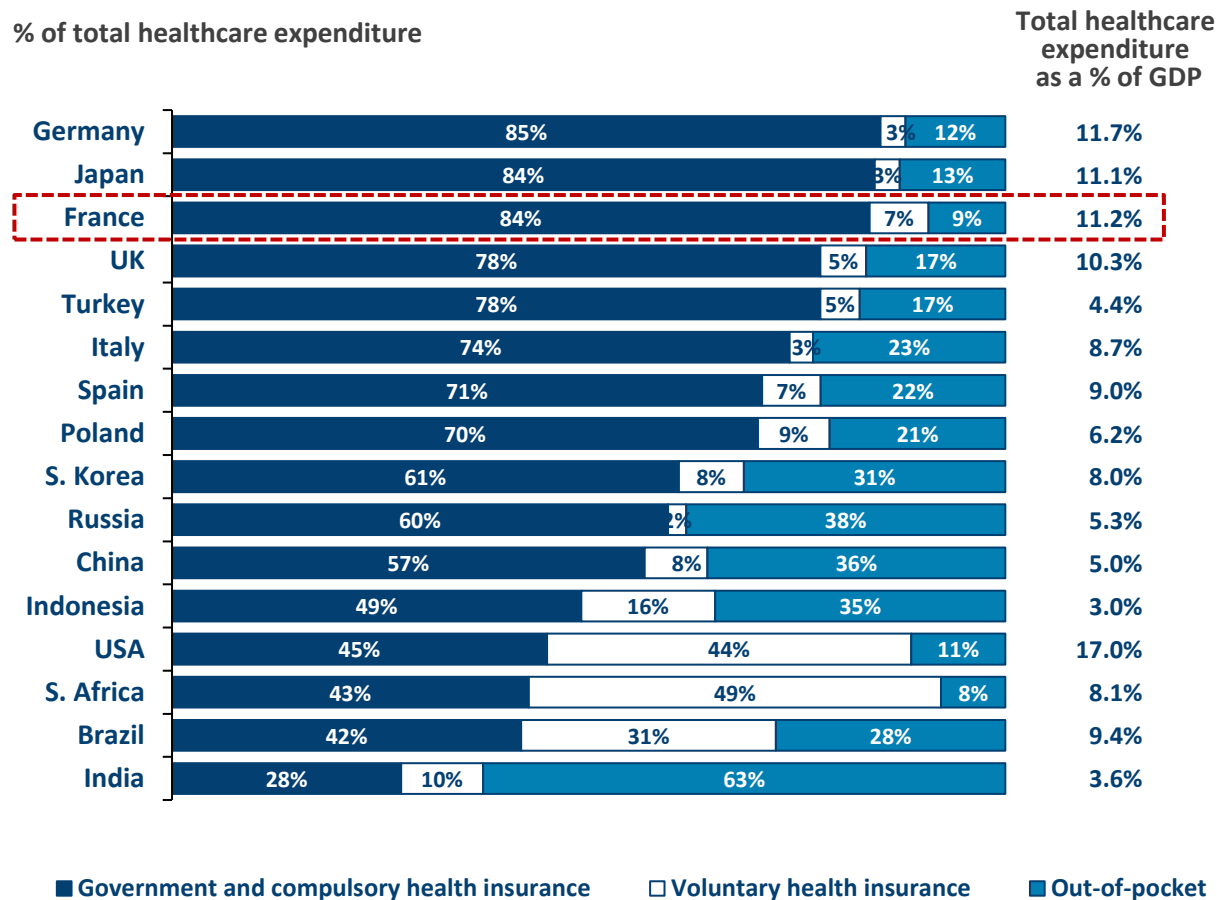
- Drugs represent the **3rd largest source** of healthcare expenditure in most major developed countries
- Drugs are typically the **easiest segment** to apply cost-containment measures on, as decisions are:
 - Made by payers (either public and/or private), with a limited bargaining power of suppliers
 - Much better accepted by citizens than restriction measures on the other segments
 - Practically easy to implement
- However, to significantly contain the raise of total healthcare costs, governments need to apply cost-optimization measures on all healthcare segments, irrespective of their relative importance

Sources: OECD database (March 2021) – Smart Pharma Consulting analyses

¹ Other expenditures include ancillary services, preventive care and governance, healthcare system and financing administration – *Or latest data available for all countries

France is one of the countries where the percentage of “out-of-pocket” spending to cover the healthcare expenditure is the lowest

Share of public spending in total healthcare expenditure (2019*)



- With 11.2% of its GDP spent in healthcare, France belongs to the countries allocating the largest share of their resources
- Its level of public spending on healthcare is amongst the highest, just behind Germany and Japan, showing a highly protective healthcare system
- All the French citizens benefit from a public health insurance and 95% of them have a complementary private healthcare insurance, which is compulsory, since the 1st of January 2016, for all employees, irrespective of the size of their company
- As a result, “out-of-pocket” spending represents only 9% of total healthcare expenditure

Sources: World Bank and OECD databases (March 2021) – Centers for Medicare & Medicaid Services (March 2021) – Smart Pharma Consulting analyses

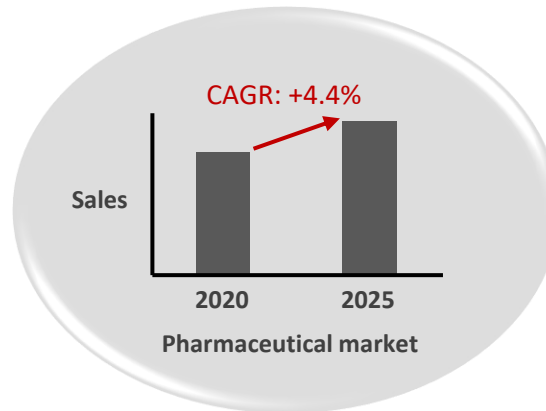
* Or latest data available for all countries

The key drivers and limiters of the global pharmaceutical market by the end of 2025, as well as their probable impact on sales trends, are well identified and should remain stable

Global pharmaceutical market drivers and limiters (2020 – 2025)



- 1 Population increase and ageing
- 2 Better access to medicines in emerging markets (e.g., BRICS¹, Mexico, Turkey, etc.) as a result of an increasing GDP per capita
- 3 Strong development of generics market (access to a larger number of people, especially in lower income countries), and to a lesser extent of biosimilars
- 4 Strong demand from patients / PAGs² for more effective and better tolerated new drugs



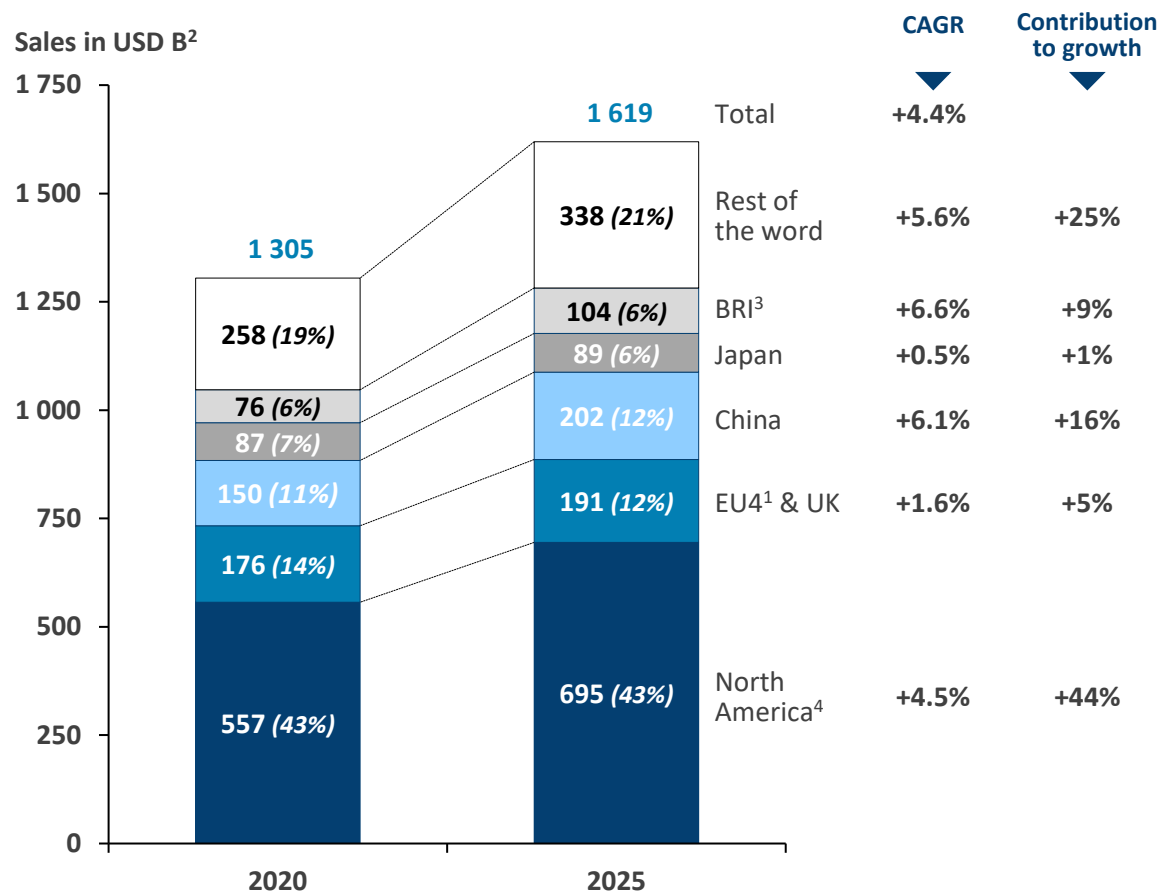
- 1 Decreasing R&D productivity of pharma companies re. breakthrough innovations
- 2 Increasing barriers to market access and stronger pressure on price from payers (governments, HMOs, patients, etc.), exacerbated by a tougher economic environment
- 3 Increasing competition of non-reimbursed drugs by medical devices and food supplements
- 4 Intensification of competition from generic and biosimilar drugs

Sources: Smart Pharma Consulting analyses

¹ Brazil, Russia, China, South Africa – ² Patient advocacy groups

Sales of EU4¹ & UK should grow slowly by 2025 due to stringent cost containment measures leading to a two-point decrease of their weight in the global pharmaceutical market

Global pharmaceutical market size and growth by geographic area (2020 – 2025)



- The global pharma market is expected to grow with a **CAGR of +4.4%** by 2025, including the impact of Covid-19, that should lead to **higher pressure on prices** worldwide, in the next 5 years
- **EU4 & UK** countries account together for only 14% of the global pharma market (Germany: 4%, France: 3%, Italy: 3%, UK: 2% and Spain: 2%) and should see their **weight drop by 2 points** by 2025, due to higher **price pressure** than in the average of the other countries in the world
- **North America** (of which the USA accounts from 41%) should continue to weigh for 43% of the global pharma market in value and contribute to **44% to worldwide market growth** over the 2020 – 2025 period
- **~75%** of the global pharmaceutical market **profits** which have been **generated by the USA** in 2020, should **reach ~80% in 2025**

Sources: IQVIA Institute (April 2021) – Smart Pharma Consulting estimates

¹ France, Germany, Italy and Spain – ² Ex-factory price before rebates – ³ Brazil, Russia, India – ⁴ USA and Canada

By 2025, the French Pharma market is expected to step back from the 5th to the 6th place at the global level and remain at the 2nd place in Europe

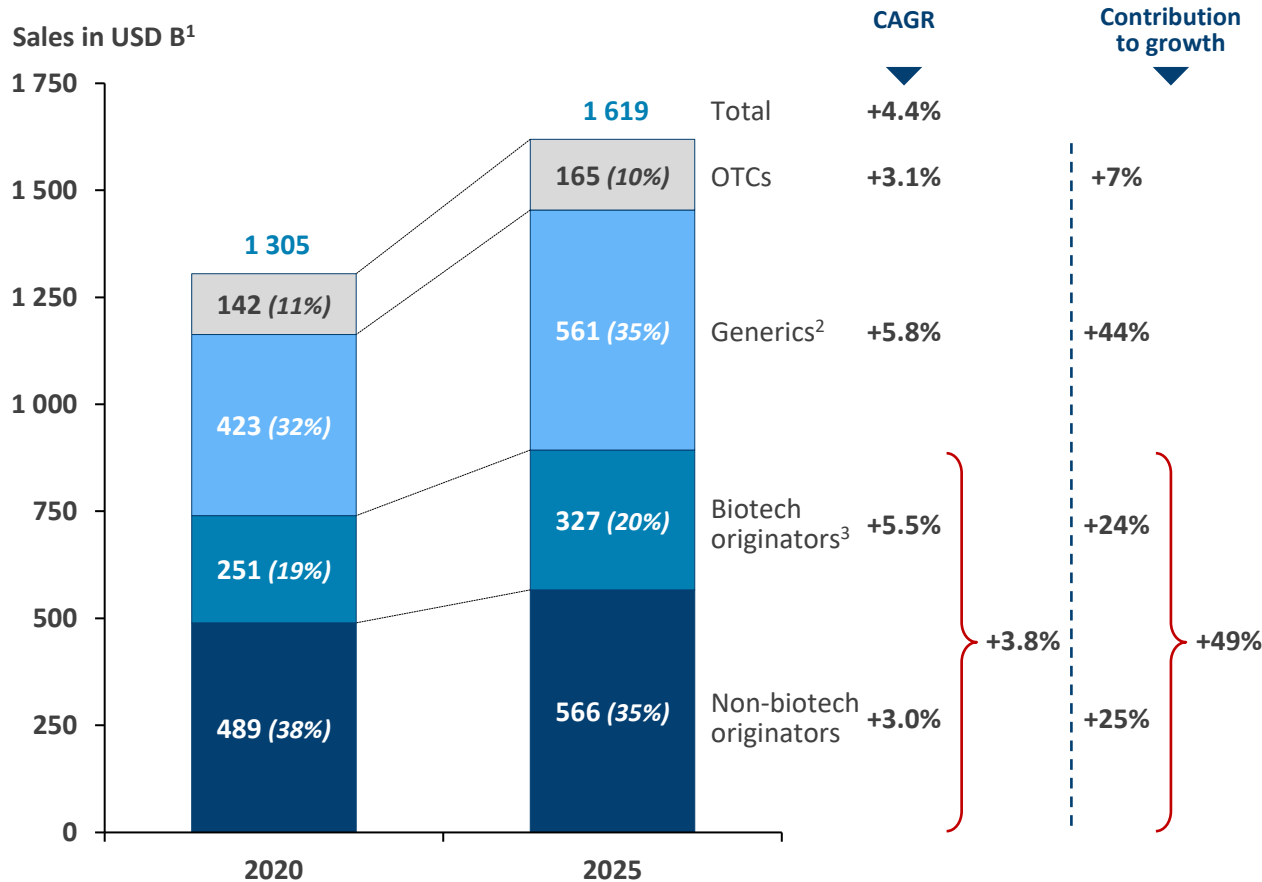
Global pharmaceutical market ranking in value¹ (2015 – 2020 – 2025)

Rank	2015	2020	2025	CAGR 2020 – 2025
1	USA	USA	USA	++
2	China	China	China	+++
3	Japan	Japan	Japan	+
4	Germany	Germany	Germany	++
5	France	France	Brazil	++++
6	Italy	Italy	France	+
7	UK	UK	Italy	++
8	Spain	Brazil	UK	++
9	Canada	Spain	India	++++
10	Brazil	Canada	Russia	++++
11	India	India	Spain	++
12	South Korea	Russia	Canada	++
13	Russia	South Korea	South Korea	+++
14	Australia	Australia	Turkey	++
15	Saudi Arabia	Mexico	Mexico	++
16	Mexico	Saudi Arabia	Australia	++
17	Poland	Poland	Saudi Arabia	++
18	Switzerland	Turkey	Poland	++
19	Belgium	Belgium	Belgium	++
20	Netherlands	Taiwan	Egypt	+++

	CAGR 2020 – 2025	
++++	→ ≥8%	
+++	→ 6 – 7.9%	
++	→ 3 – 5.9%	
+	→ <0 – 2.9%	

All the business segments of the pharma market will be affected by the Covid-19 crisis through a strong price pressure over the 2020-2025 period

Global pharmaceutical market by strategic segment (2020 – 2025)



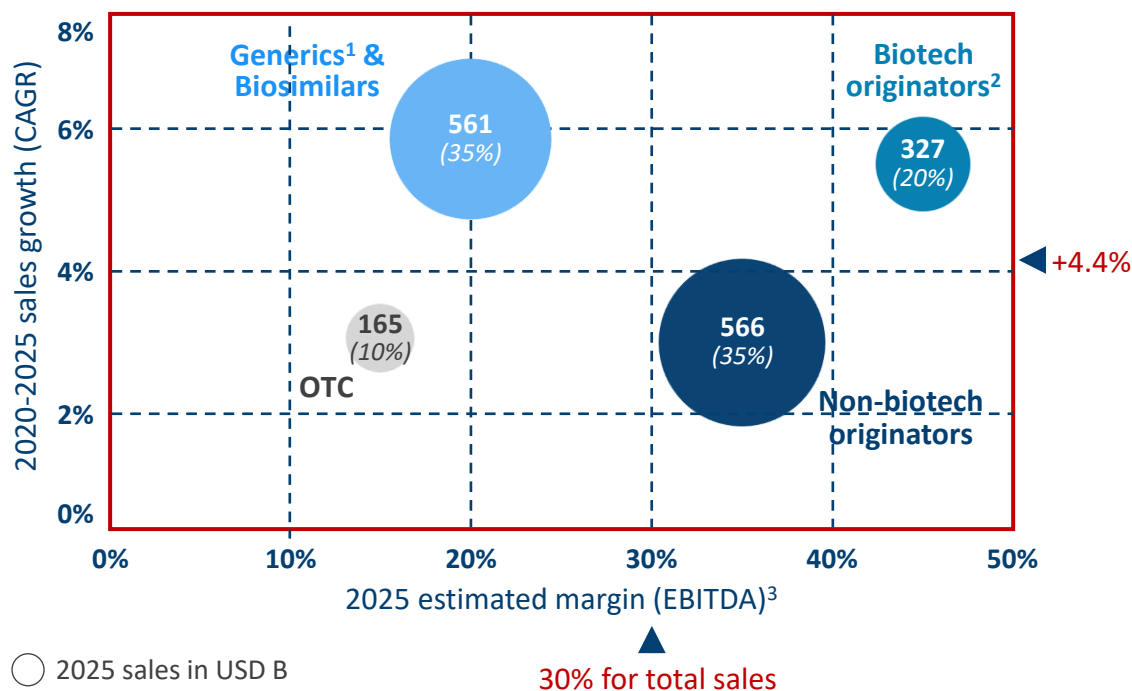
- **OTCs**, which should remain the smallest segment of the global pharma market, has been significantly **affected** by the **Covid-19** crisis in 2020, especially during **lockdown** periods. OTCs should grow at a lower pace than the other market segments, due to their stronger sensitivity to the economic environment
- **Generics and biosimilars** should continue to **grow** in **volume** due to patent expiries, but **pressure on prices** should **intensify** on this market segment
- **Biotech originators** should become the main **driver of innovation** in the next 5 years
- **Non-biotech originators** should be less dynamic, due to generics competition and the maturity of most of the brands. However, they should remain the **largest segment** of the global pharma market

Sources: IQVIA Institute (April 2021) – Smart Pharma Consulting estimates

¹ Ex-factory price before rebates – ² Including branded and unbranded generics and biosimilars, excluding OTC – ³ Excluding biosimilars, already included in the “Generics” segment

By 2025, the sales growth of the pharma market should be essentially driven by generics and biotech originators, but pharma companies should lose two points of profitability

Global pharmaceutical market attractiveness by strategic segment (2020 – 2025)

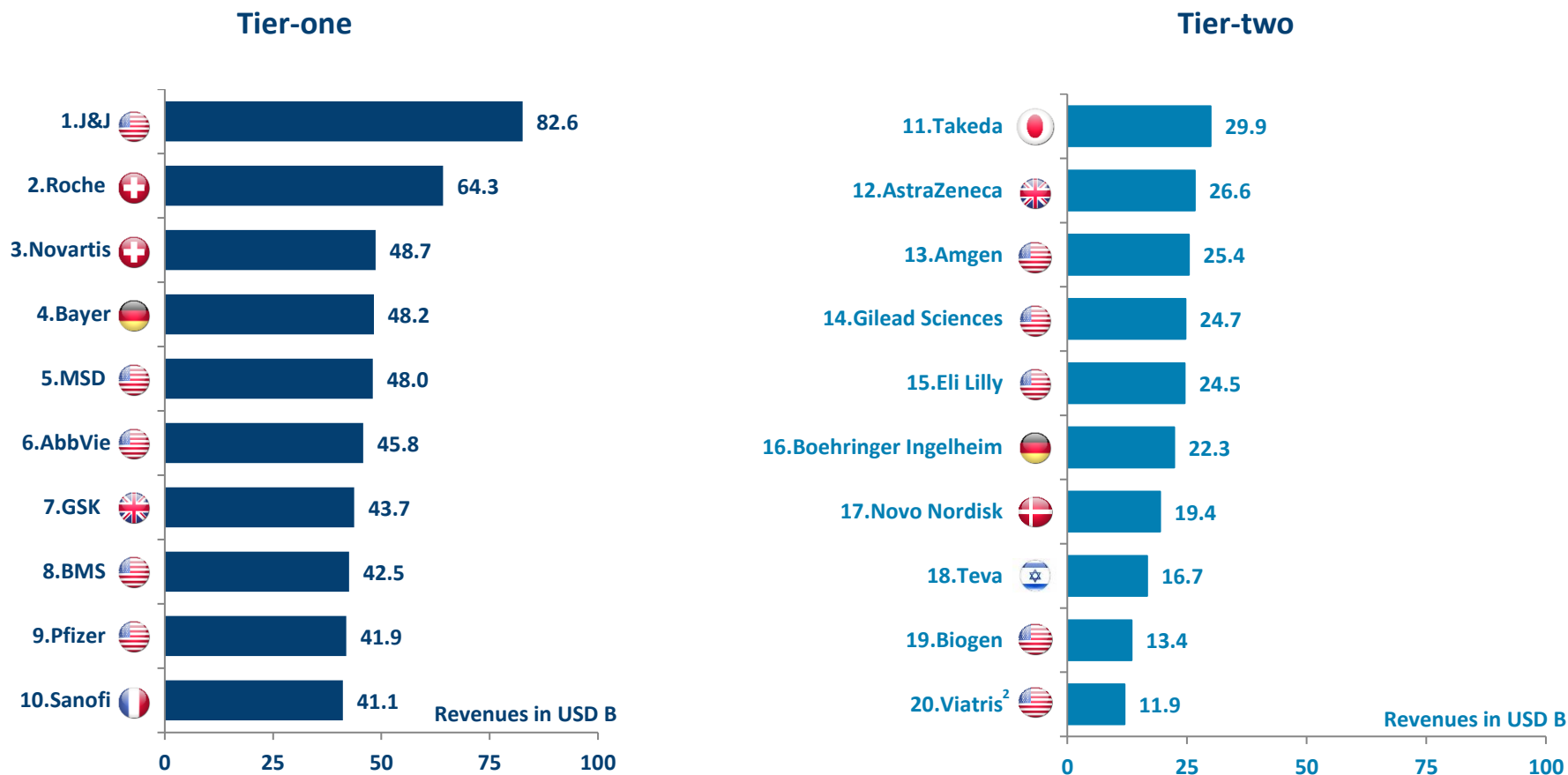


- By 2025, the **global pharma market** should reach USD 1,619 B and grow at a pace of **+4.4% per year**, i.e., 1.5 point of percentage above the forecasted worldwide economic growth, but **0.6 point below the pre-Covid-19 estimates**
- The average **EBITDA** of the pharma industry should **decrease** from **~32%** in 2020 to **~30%** in 2025, mainly as a result of increasing price pressure
- In 2025, the **average net profits** of pharma companies are expected to be **more than twice higher** than the average of all **other business sectors**
- The **biotech** segment will **remain very attractive** but **biosimilar** competition will ramp up
- The OTC segment should be the least attractive

Worldwide economic growth – CAGR 2020-2025: +2.9%

The top 20 pharma companies based on all segments of activities¹ counts
10 companies from the USA, 8 from Europe, 1 from Japan and 1 from Israel

Top 20 pharma companies (2020) – All segments



Sources: Companies annual reports (2020) – Pharmaceutiques (March 2021) – Smart Pharma Consulting analyses

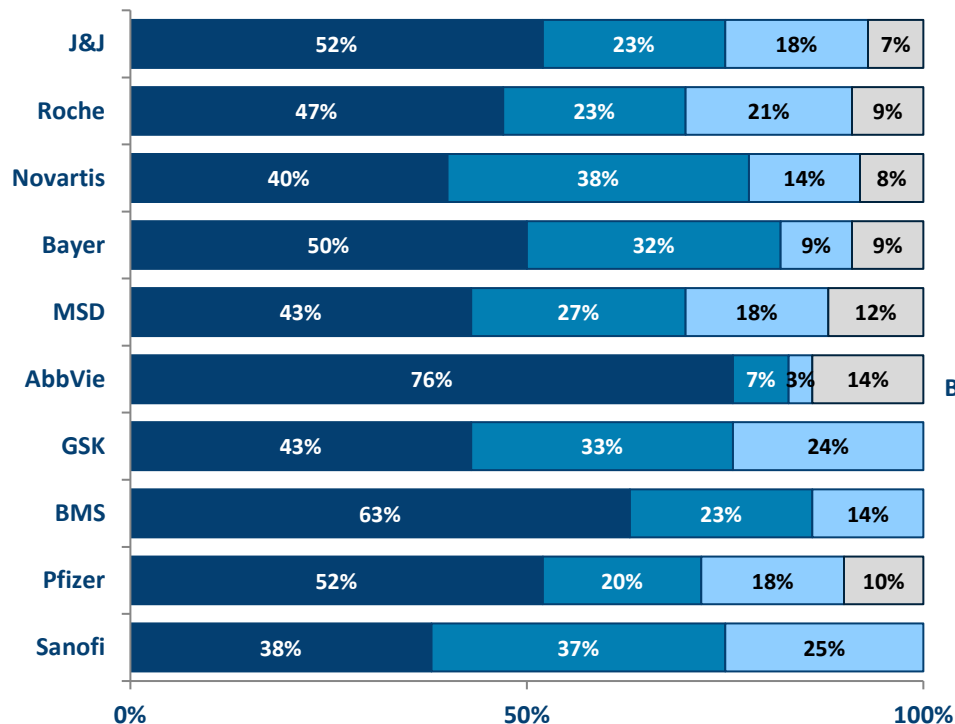
¹ Including Rx-bound drugs but also all other businesses (e.g., consumer healthcare, medical devices, food supplements, animal health) –

² Including mature brands business of Pfizer Upjohn merged with Mylan since November 16, 2020

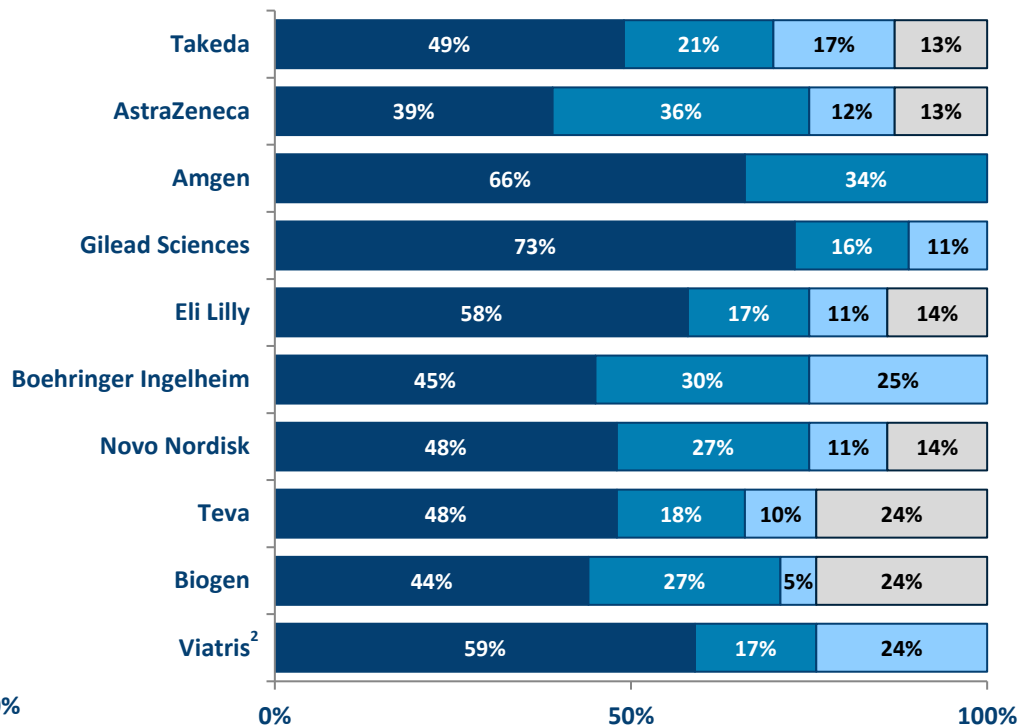
Tier-two pharma companies tend to be less geographically diversified, with most of them generating half of their revenues in a single region

Top 20 pharma companies – Geographical areas (2020)

Tier-one



Tier-two



1st region

2nd region

3rd region

Other regions

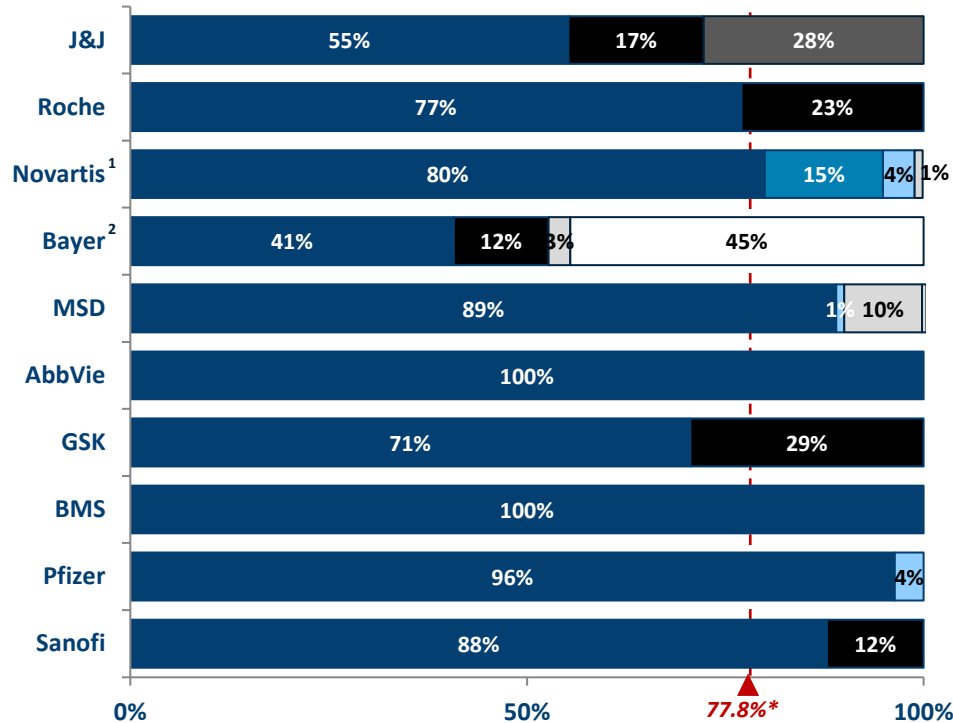
Sources: Companies annual reports (2020) – Smart Pharma Consulting analyses

¹ 1st & 2nd regions include two of the following geographical areas: North America (USA and Canada), Europe or Japan, depending on each company – ² Including mature brands business of Pfizer Upjohn merged with Mylan since November 16, 2020

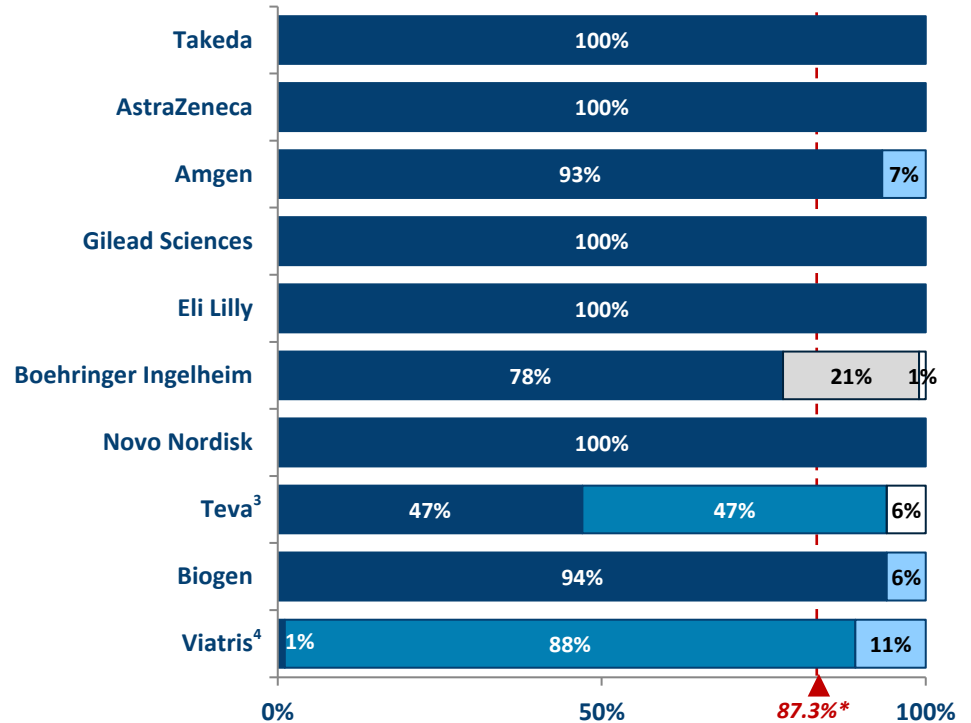
In 2020, original Rx-bound drugs and vaccines segments were the main source of revenue for most big pharma companies

Top 20 pharma companies – Strategic segments coverage (2020)

Tier-one



Tier-two



Prescribed drugs & vaccines in human health:



Other segments:



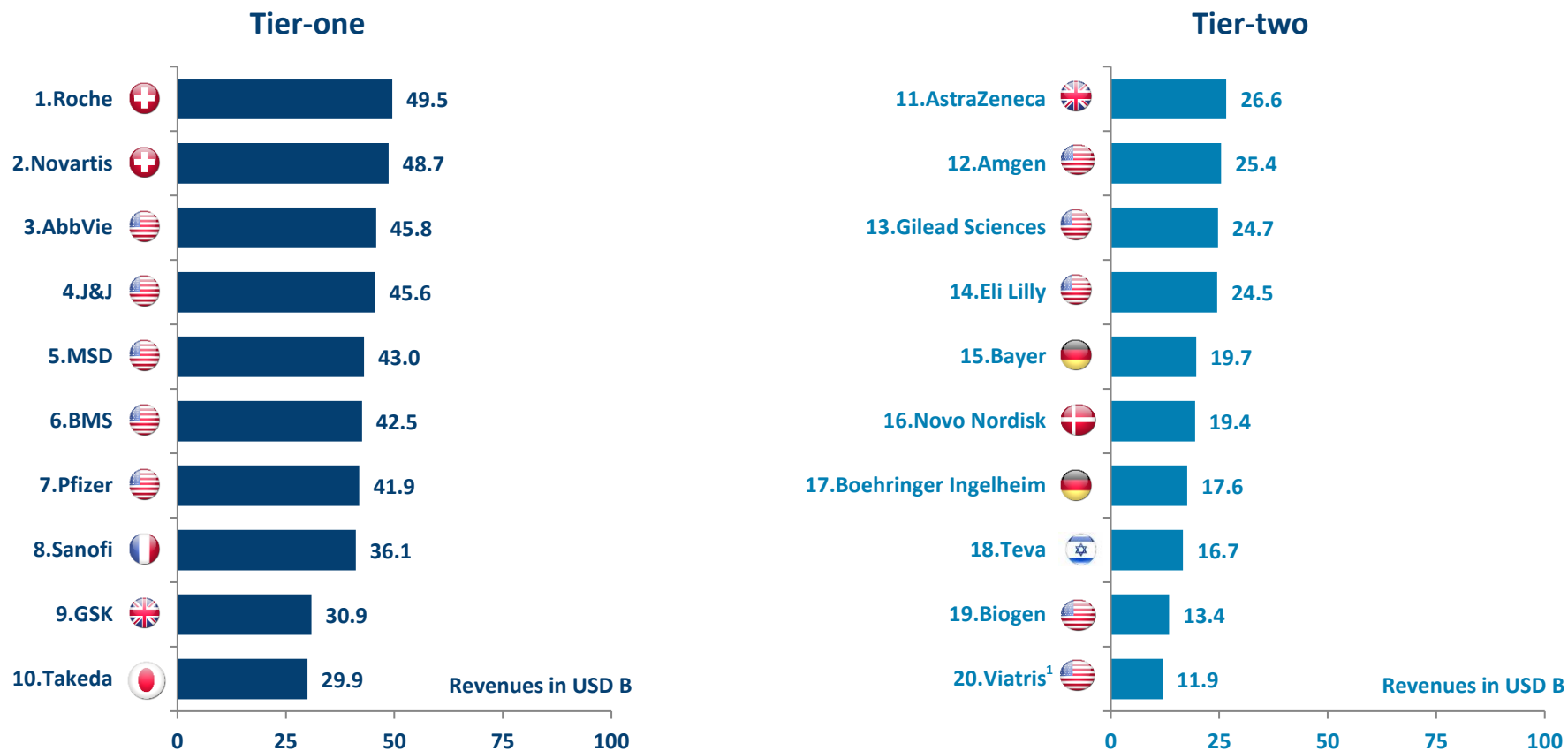
* Weighted average of the prescribed drugs and vaccines in human health

Sources: Companies annual reports (2020) – Smart Pharma Consulting analyses

¹ Including Sandoz: Novartis division of generics and biosimilars – ² Other includes Crop Science specialized in chemicals (fungicide, herbicide etc.) – ³ Generics segment including OTC products – ⁴ Including mature brands business of Pfizer Upjohn merged with Mylan since November 16, 2020

The top 20 pharma companies based on strategic drug & vaccines segments sales counts
10 companies from the USA, 8 from Europe, 1 from Japan and 1 from Israel

Top 20 pharma companies – Drugs & vaccines strategic segments (2020)



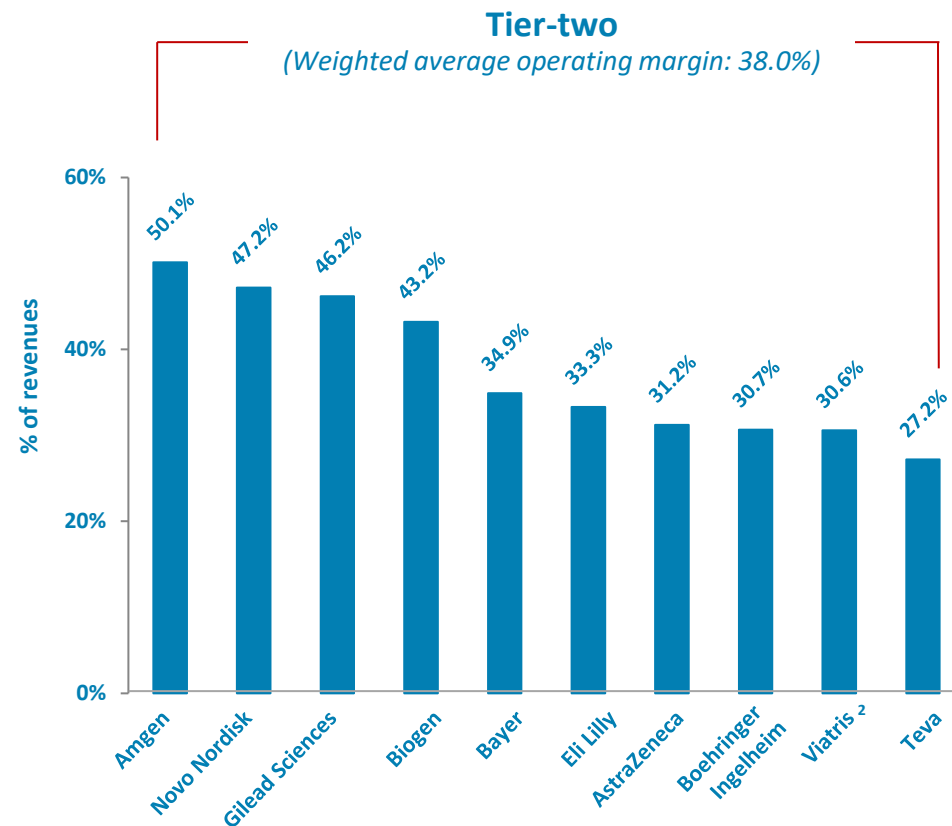
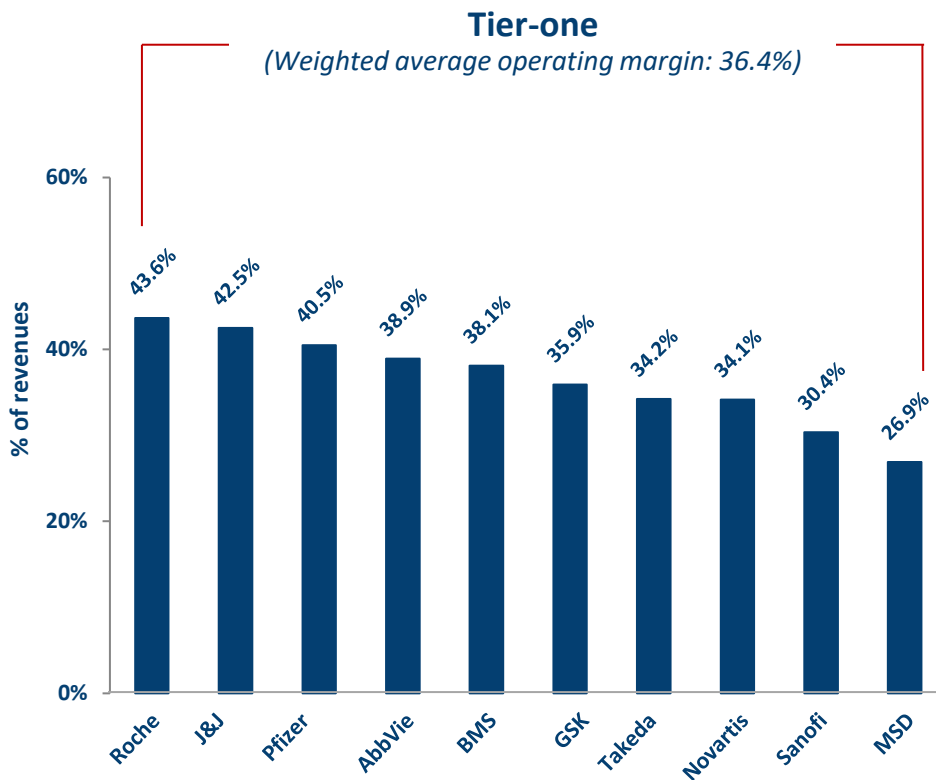
Note: panel of the 20 biggest pharma companies in terms of prescribed sales (drugs & vaccines) in human health in 2020 (excluding diagnostics, medical device, nutrition products and animal health)

Sources: Companies annual reports (2020) – Smart Pharma Consulting analyses

¹ Including mature brands business of Pfizer Upjohn merged with Mylan since November 16, 2020

The 2020 average operating margin was higher for tier-two companies in comparison to tier-one companies, with a similar dispersion profile

Top 20 pharma companies – EBITDA¹ (2020)



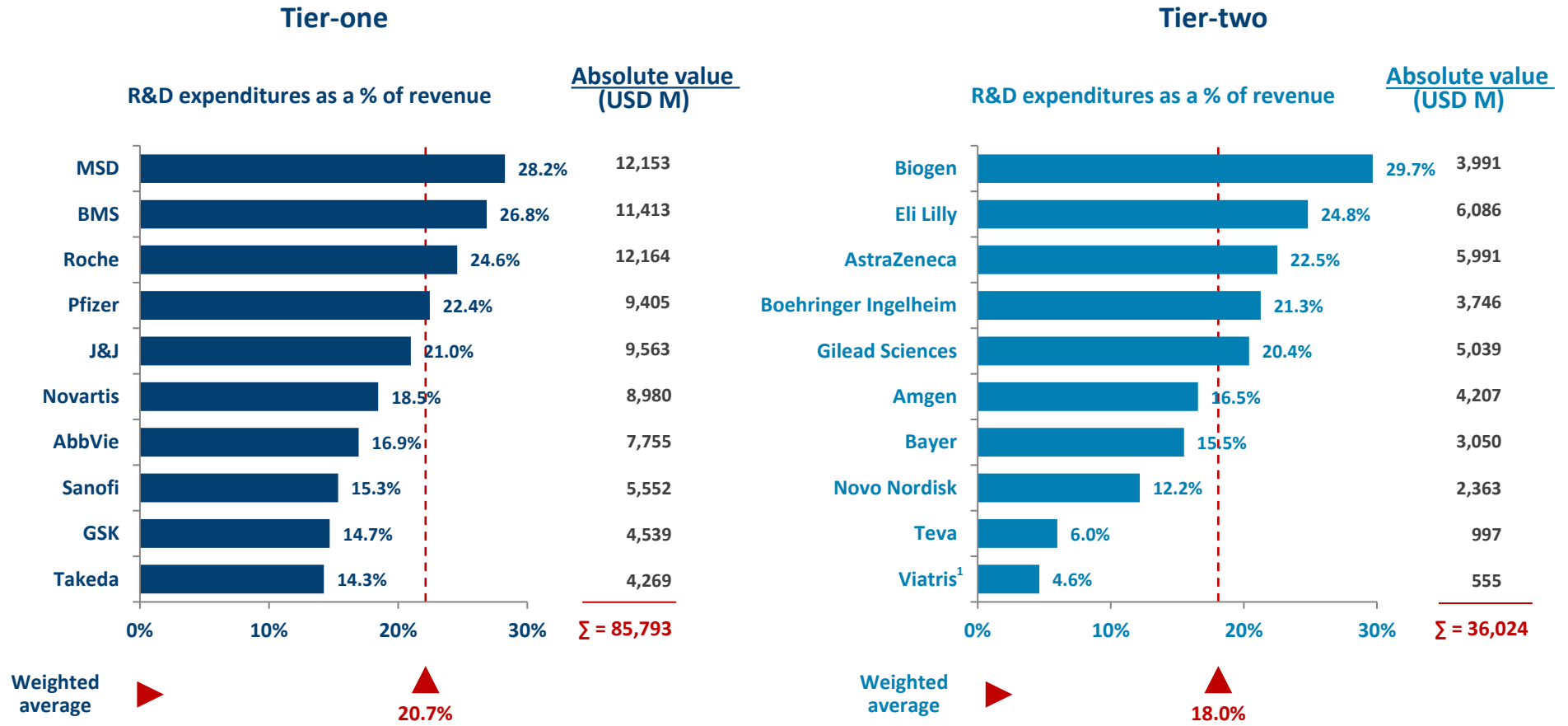
Note: panel of the 20 biggest pharma companies in terms of prescribed sales (drugs & vaccines) in human health in 2020 (excluding diagnostics, medical device, nutrition products and animal health)

Sources: Companies annual reports (2020) – Smart Pharma Consulting analyses

¹ Earnings before interest, taxes, amortization and depreciation – ² Including mature brands business of Pfizer Upjohn merged with Mylan since November 16, 2020

Tier-one pharma companies have spent two times more for R&D in absolute value than tier-two pharma companies and ~2.7 points more as a percentage of their revenues

Top 20 pharma companies – R&D expenditures (2020)



Sources: Companies annual reports (2020) – Smart Pharma Consulting analyses

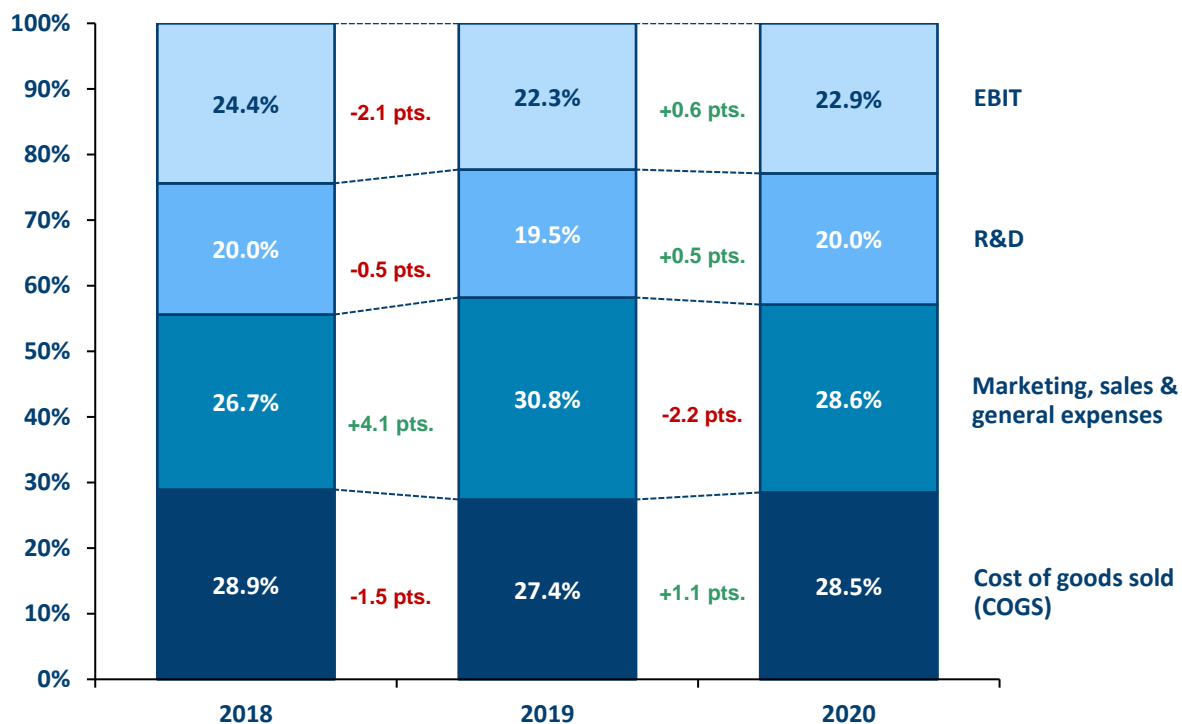
¹ Including mature brands business of Pfizer Upjohn merged with Mylan since November 16, 2020

In 2020, the weighted average operating result (EBIT) of the top 20 pharma companies reached ~23% of revenues, decreasing by 1.5 point of percentage vs. 2018

Top 20 pharma companies – Cost structure (2018 – 2020)

Cost structure as a percentage of total revenues

Weighted average of total revenues



- The analysis of the top 20 pharmaceutical companies in the world shows that their average profitability has slightly decreased by 1.5 point of percentage between 2018 and 2020
- This negative trend can be explained by:
 - The price pressure imposed by healthcare authorities
 - The loss of exclusivity of many blockbusters that has led to the intensification of generics and biosimilars competition
- With an average operating result of ~23% in 2020, the level of performance remains high, which is the Achilles heel of pharmaceutical companies when negotiating price and reimbursement of their drugs with governments and payers
- In 2020, Marketing, sales & general expenses were 43% higher than investment in R&D

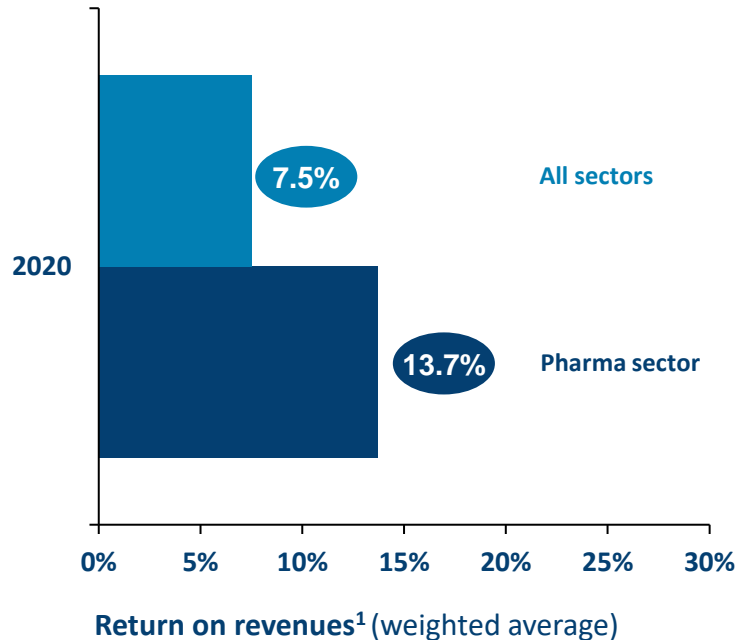
Note: panel of the 20 biggest pharma companies in terms of prescribed sales (drugs & vaccines) in human health in 2020 (excluding diagnostics, medical device, nutrition products and animal health)

In 2020, the net profitability of the pharma sector outpaces by ~6.2 points of percentage the average profitability of all sectors

Profitability and sales dynamics of the pharma sector (2018 – 2020)

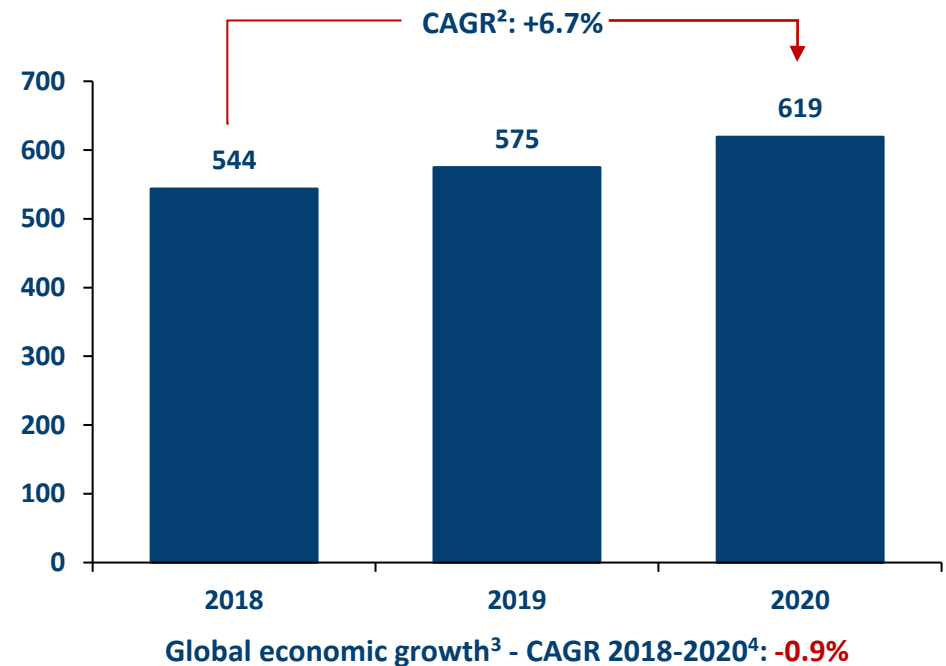
Net profitability in 2020

(Of top 20 Rx pharma companies and of the global economy)



Market sales trend

(Of top 20 Rx pharma companies)



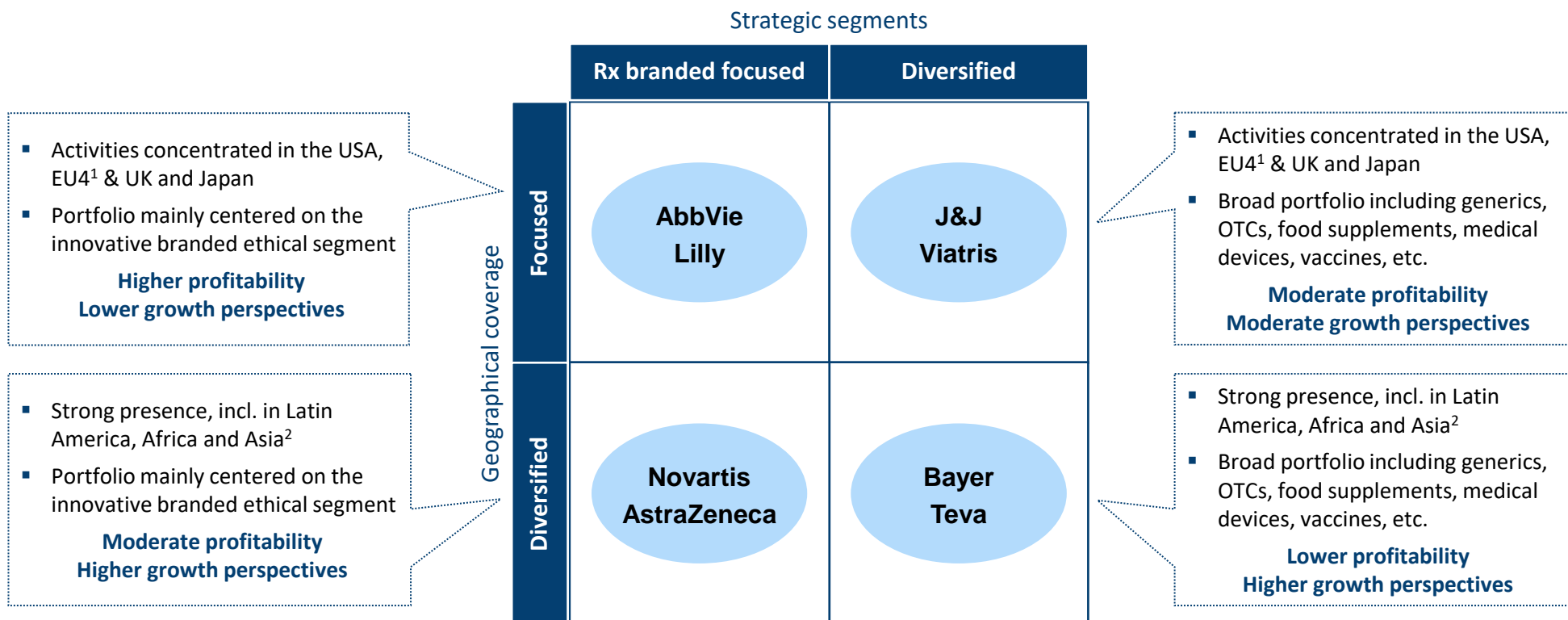
Note: panel of the 20 biggest pharma companies in terms of prescribed sales (drugs & vaccines) in human health in 2020 (excluding diagnostics, medical device, nutrition products and animal health)

Sources: Companies annual reports (2020) – Forbes: The Global 2000, 2020 – IFM – Smart Pharma Consulting analyses

¹ Return on revenues = net profit / total revenues – ² Compound annual growth rate – ³ World gross product at market exchange rates – ⁴ Economic growth percentage in 2019 before Covid-19 crisis was +3.2%

Best performers are focused on innovative Rx-bound drugs and generate an important share of their revenues from the USA, which is the most profitable and dynamic market





















Development strategy matrix – Principles



Note: **Rx branded focused**: Prescribed drugs and vaccines \geq 75% of total product sales – **Geographically focused**: $>$ 50% of sales in a single geographical region (e.g., USA, Europe, Japan, etc.)

Tier-one and tier-two companies are mainly focused on Rx branded segment, but tier-one companies are more geographically diversified

Pharma companies' development strategy (2020)

		Tier-one		Tier-two	
		Strategic segments		Strategic segments	
		Rx branded Focused	Diversified	Rx branded Focused	Diversified
Geographical coverage	Focused	  		  	
	Diversified	   	 	  	  

Note: **Rx branded focused:** Prescribed drugs and vaccines ≥ 75% of total product sales – **Geographically focused:** >50% of sales in a single geographical region (e.g., USA, Europe, Japan, etc.)

Most of the recent M&A operations have been carried out to strengthen pharma companies position on their core strategic segments

Major M&A operations (2016 – 2020)

Acquirer	Acquired (> USD 2.0 B)	Strategic objectives		
		Diversification	Strengthening	Expansion
J&J	<ul style="list-style-type: none"> Actelion (Pulmonary arterial hypertension) Momenta pharmaceuticals (Biotechnology) Auris Health (Medical device) Abbott Medical Optics (Products for dry & irritated eyes) 		✓ ✓ ✓	✓ ✓
Roche	<ul style="list-style-type: none"> Sparks Therapeutics (Gene therapies) 	✓		
Novartis	<ul style="list-style-type: none"> Advanced Accelerator Applications (Oncology) AveXis (Gene therapies, rare diseases) Endocyte (Cancer and inflammatory diseases) The medicine company (Critical care) 		✓ ✓ ✓ ✓	
Bayer	<ul style="list-style-type: none"> Monsanto (Chemical & agricultural biotechnology) Asklepios Biopharmaceutical (Gene therapies for genetic disorders) 	✓	✓	
MSD	<ul style="list-style-type: none"> Antelq (Animal health) 		✓	
Abbvie	<ul style="list-style-type: none"> Stemcentrx (Oncology) Allergan (Branded pharmaceuticals) 	✓	✓	
GSK	<ul style="list-style-type: none"> Tesaro (Oncology) Stiefel (Dermatology) 	✓	✓	
BMS	<ul style="list-style-type: none"> IFM Therapeutics (Cancer immunotherapies) Celgene (Oncology) MyoKardia (Rare cardiovascular disease) 	✓	✓ ✓	

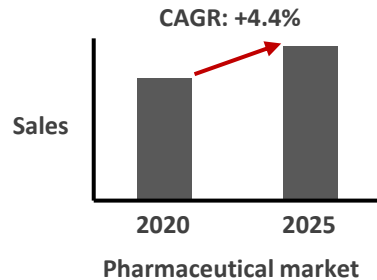
Acquirer	Acquired (> USD 2.0 B)	Strategic objectives		
		Diversification	Strengthening	Expansion
Pfizer	<ul style="list-style-type: none"> Medivation (Oncology) Anacor (Anti-inflammatory) ArrayBioPharma (Oncology) 	✓	✓ ✓	
Sanofi	<ul style="list-style-type: none"> Boehringer Ingelheim (Consumer healthcare business of the company) Bioverativ (Rare blood disorders) Ablynx (Immunotherapies) Principia BioPharma (Oral therapies in immunology & oncology) Synthorx (Biotechnology) 	✓	✓ ✓ ✓	
Takeda	<ul style="list-style-type: none"> Ariad Pharmaceuticals (Oncology) Shire (Rare diseases, US-based) 		✓ ✓	✓
AstraZeneca	<ul style="list-style-type: none"> Acerta Pharma (Cancer and autoimmune diseases) Alexion Pharmaceuticals (Rare disease, US-based) 		✓ ✓	
Amgen	<ul style="list-style-type: none"> Otezla (Dermatology) 		✓	
Gilead Sciences	<ul style="list-style-type: none"> Kite Pharma (Cancer immunotherapies) Forty Seven (Cancer immunotherapies) Immunomedics (Cancer treatment) 		✓ ✓ ✓	
Eli Lilly	<ul style="list-style-type: none"> Loxo Oncology (Oncology) 		✓	
Boehringer Ingelheim	<ul style="list-style-type: none"> Merial (Animal health business of Sanofi) 		✓	
Teva	<ul style="list-style-type: none"> Actavis Generics (Allergan generics) Rimsa (Latin America) 		✓	✓
Viatriis	<ul style="list-style-type: none"> Meda (OTC, Emerging markets) Upjohn (Pfizer's established medicines) 	✓	✓	✓

Note: Diversification means entering new strategic segments/balancing minor segments – Strengthening means reinforcing major strategic segments – Expansion means geographical coverage

The global pharmaceutical market should keep on growing at a pace of 4.4% p.a. by 2025, but pharma companies' profitability would be impacted by strong price cuts

Conclusion (1/2)

Global pharma market
2020-2025 perspectives



The global pharma market should reach USD 1,619 B in 2025, representing a +4.4% CAGR over the 2020-2025 period

- North America should continue to weigh for 43% of the global pharma market in value and should generate ~80% of the global pharmaceutical market (vs. ~75% in 2020)
- EU4¹ & UK countries should see their weight in the global pharma market drop by 2 points from 14% to 12% due to stringent cost containment measures
- All the business segments will be affected by the pandemics-induced economic crisis, resulting into strong price pressure

Top 20 pharma companies
Performance & Strategies

EBITDA ²	37% of sales	EBIT ³	~23% of sales	R&D	~20% of sales
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Strategic segments

		Rx branded focused	Diversified
Geographical coverage	Focused	abbvie Bristol Myers Squibb Pfizer AMGEN Lilly GILEAD	Johnson & Johnson VIATRIS™
	Diversified	AstraZeneca Boehringer Ingelheim NOVARTIS SANOFI Biogen novo nordisk Roche MSD Takeda	BAYER teva gsk

Sources: Smart Pharma Consulting analyses

¹ France, Germany, Italy and Spain – ² Earnings before interest, taxes, amortization and depreciation – ³ Earnings before interest and taxes

To improve their performance, pharma companies tend to refocus on therapeutic areas with high potential for growth (e.g., rare diseases, oncology, gene and cellular therapies)

Conclusion (2/2)

- In recent years, mega-deals aiming at increasing pharma companies' size and/or strengthening their economies of scale have come to an end
- Pharma companies rather seek to refocus their assets on secondary-care therapeutic areas with high potential for growth:
 - Rare diseases (e.g., acquisition of Shire by Takeda or of Alexion by AstraZeneca, etc.)
 - Oncology (e.g., merger of Celgene and BMS, acquisition of Stemcentrx by AbbVie and partnership of the latter with Genmab, etc.)
 - Gene and cellular therapies (e.g., partnership of Biogen with Sangamo, etc.)
- Top-pharma companies increasingly seek to acquire promising early-stage development biotechs with the aim to add complementary platforms and technologies...
- ... and tend to foster their collaborations with other pharma companies, notably in the Covid-19 context (e.g., Pfizer / BioNTech, GSK / Sanofi, AstraZeneca / Oxford University, etc.)
- Conversely, divestments are made in other areas (e.g., separation by Pfizer of its Upjohn mature brands division merged with Mylan into the new Viatrix, rethinking by Sanofi of its core activities, sale by GSK of its Consumer Healthcare division)

Consulting firm dedicated to the pharmaceutical sector operating
in the complementary domains of strategy, management and organization

The Market Insights Series

- The Market Insights Series has in common to:
 - Be well-documented with recent facts and figures
 - Highlight key points to better understand the situations
 - Determine implications for key stakeholders
- Each new issue is designed to be read in 15 to 20 minutes and not to exceed 25 pages

Issue #19

Top 20 pharma companies

Performance & Strategies

This paper proposes a review of global pharma trends by 2025 and an analysis of the top 20 pharma companies' performance and strategies

Global Pharma Market – 2020-2025 perspectives

- International healthcare expenditure
- Global pharma market

Top 20 pharma companies – Performance & Strategies

- 2020 performance
 - All strategic segments
 - Drugs & vaccines only
- Portfolio strategies
- M&A operations

Smart Pharma Consulting Editions



- Besides our consulting activities which take 85% of our time, we are strongly engaged in sharing our knowledge and thoughts through:
 - Our teaching and training activities
 - The publication of articles, booklets, books and expert reports
- More than 80 publications, in free access, can be downloaded from our website, of which:
 - 19 business reports (e.g., The French Pharma Market)
 - 11 position papers in the “Best-in-Class Series”
 - 18 position papers in the “Market Insights Series”
 - 10 position papers in the “Smart Manager Series”
 - 10 position papers in the “Smart Tool Series”
- Our research activities in pharma business management and our consulting activities have shown to be highly synergistic
- We hope that this new publication will be useful for you
- We remain at your disposal to carry out consulting projects or training seminars to help you improve your operations

Best regards

Jean-Michel Peny