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Pharmaceutical Industry

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It is clearly visible from the data on the sale of medicines at the global level that there has been a big change compared to the time of the pandemic. It is primarily reflected in the significant decrease in sales of the Comirnaty vaccine, whose producers are Pfizer and BioNTech, by 72.63 percent compared to 2022.

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Together, the ten leading companies in the pharmaceutical industry in 2023 achieved a total revenue of EUR 1,223.66 million, which increased by 10.5 percent year-on-year.

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According to the data on the operations of pharmaceutical companies in the last year, it can be clearly seen that the coronavirus pandemic is over and that the market is once again turning to medicines for other diseases, which before the pandemic were the biggest revenue generators.

As of 2024 (starting from no. 110), the Sector Analyses publication will be published in English as well.



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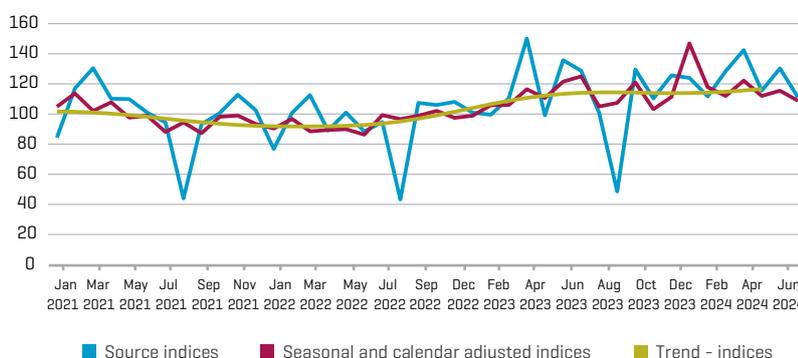
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Main sector indicators

The manufacture of basic pharmaceutical products and pharmaceutical preparations in the first six months of 2024 increased by 0.4 percent compared to the same period in 2023. According to the data of the Croatian Bureau of Statistics, the manufacture of pharmaceutical products and preparations recorded a year-on-year increase in the first four months of this year. However, in May and June 2024, there was a decline compared to the same months last year. In May this year, the manufacture of pharmaceutical products and preparations was lower by 4.7 percent compared to May 2023. In June 2024, it recorded a year-on-year decline by as much as 13.1 percent.

Figure 1
Manufacture of basic pharmaceutical products and pharmaceutical preparations (2021 = 100)

Source: Croatian Bureau of Statistics.



“The manufacture of pharmaceutical products and preparations in June this year decreased by 2.2 percent compared to the average of 2023.

Monthly rates of change calculated from seasonally- and calendar-adjusted indices for June of this year indicate a decrease in the manufacture of pharmaceutical products and pharmaceutical preparations compared to May of this year by 5.7 percent. The largest decrease in the manufacture of pharmaceutical products and preparations on a monthly basis was in January of this year, when manufacture decreased by 19.8 percent compared to December 2023. According to the original volume indices of industrial production, the manufacture of pharmaceutical products and preparations decreased by 2.2 percent in June this year compared to the average of 2023.

In June 2024, manufacturers' stocks of finished pharmaceutical products decreased by 5.9 percent compared to the same month in 2023. Compared

IN JUNE 2024, THE TOTAL NUMBER OF PERSONS EMPLOYED IN THE PHARMACEUTICAL INDUSTRY WAS 6,178.

“In June 2024, manufacturers’ stocks of finished pharmaceutical products decreased by 5.9 percent compared to the same month in 2023.

“In 2023, the average monthly gross wage of persons employed in the manufacture of basic pharmaceutical products and pharmaceutical preparations was 2,370 euros.

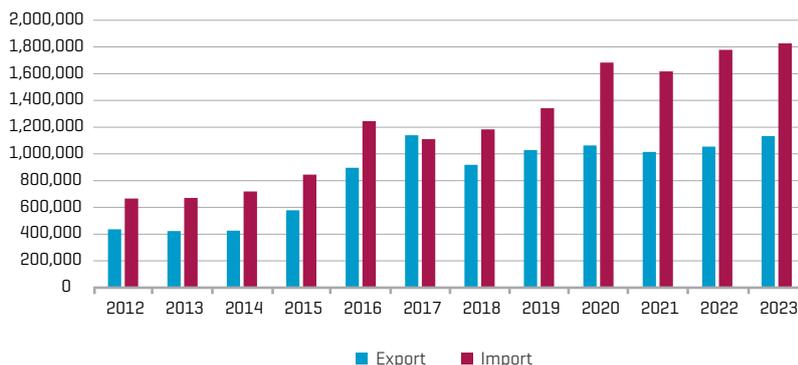
to May of this year, in June, stocks of finished products in the pharmaceutical industry decreased by 5.7 percent. In June of this year, stocks of finished pharmaceutical products and preparations increased by 7.9 percent compared to the average of 2023.

In June of this year, 2.6 percent of all persons employed in the industry and 0.4 percent of all persons employed in the Republic of Croatia were employed in the manufacture of pharmaceutical products and pharmaceutical preparations. The total number of persons employed in the pharmaceutical industry in June 2024 was 6,178. In June of this year, the number of persons employed in the pharmaceutical industry was lower by 0.3 percent than in May of this year. Compared to the same month last year, 3.4 percent more employees worked in this sector. In 2023, the average number of persons employed in the manufacture of basic pharmaceutical products and pharmaceutical preparations was 5,958. Compared to the average number of persons employed in 2022, it increased by 6.1 percent. Labor productivity in the pharmaceutical industry at the end of June this year was lower by 1.5 percent than in the same period last year.

In 2023, the average monthly gross wage of persons employed in the manufacture of basic pharmaceutical products and pharmaceutical preparations was 2,370 euros. In 2023, the average monthly gross wage in this industry increased by 7.3 percent year-on-year. In May of this year, the average monthly gross wage of persons employed in the manufacture of pharmaceutical products and preparations was 2,442 euros. Compared to April this year, it decreased by 1.3 percent. The average monthly gross wage for June 2024 in this industry increased by 12.1 percent year-on-year.

Figure 2
Foreign trade, manufacture of basic pharmaceutical products and pharmaceutical preparations from 2012 to 2023, in thousands of euros

Source: Croatian Bureau of Statistics.



IN 2023, THE EXPORT OF BASIC PHARMACEUTICAL PRODUCTS AND PREPARATIONS INCREASED BY 7.5 PERCENT YEAR-ON-YEAR.

“Last year, pharmaceutical products and preparations worth 1.8 billion euros were imported from abroad, which is an increase by 2.8 percent compared to 2022.

In 2023, the trend of increasing imports of pharmaceutical products and preparations continued in Croatia (Figure 2). Last year, pharmaceutical products and preparations worth 1.8 billion euros were imported from abroad, which is an increase by 2.8 percent compared to 2022. At the same time, 1.1 billion euros worth of pharmaceutical products were exported. In 2023, the export of basic pharmaceutical products and preparations increased by 7.5 percent year-on-year. In 2023, the export-import coverage ratio of pharmaceutical products was 62.1 percent.

According to the provisional data of the Croatian Bureau of Statistics, the export of pharmaceutical products and preparations is still on the rise this year. In the first five months of this year, the export of pharmaceutical products increased by 14.1 percent compared to the same period in 2023. Its value in the mentioned period was 499.98 million euros. The first five months of this year were also marked by an increase in the import of pharmaceutical products and preparations. Compared to the first five months of 2023, the import of pharmaceutical products and preparations increased by 11.3 percent. Although the import of pharmaceutical products is increasing slightly less than the export, its value still significantly exceeds the value of export. In the first five months of this year, the value of pharmaceutical products imported into Croatia amounted to 858.3 million euros.

“On the total market, producer prices of pharmaceutical products and preparations in July this year increased by 2 percent compared to July 2023.

Compared to last year, the trend of increasing producer prices in the manufacture of basic pharmaceutical products and preparations continued this year. On the total market, producer prices of pharmaceutical products and preparations increased by 2 percent in July this year compared to July 2023. The increase in producer prices of pharmaceutical industry products on both the domestic and non-domestic markets in June of this year amounted to 2 percent year-on-year. Regarding the change compared to the previous month of this year, producer prices of pharmaceutical products increased by only 0.1 percent in July this year. The change occurred on the non-domestic market, while the producer prices of pharmaceutical products on the domestic market remained unchanged on a monthly basis.

Compared to 2021, producer prices of pharmaceutical products are increasing as well. On the domestic market in July of this year, they were higher by 5.3 percent compared to the average prices of these products

IN 2023, CONSUMER PRICES OF PHARMACEUTICAL PRODUCTS INCREASED BY 4.2 PERCENT COMPARED TO 2022.

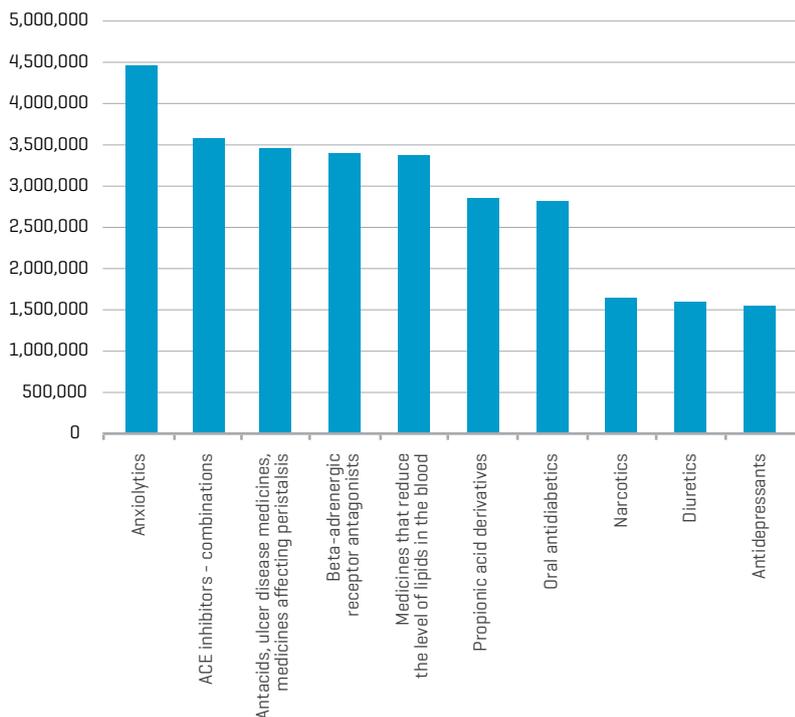
in 2021. On the non-domestic market, in July 2024, producer prices in the manufacture of pharmaceutical products increased by 8.5 percent compared to the average of 2021. Compared to 2021, the increase in producer prices of pharmaceutical products and preparations on the total market amounted to 7.8 percent in July this year.

In 2023, consumer prices of pharmaceutical products increased by 4.2 percent compared to 2022. The prices of pharmaceutical products in July this year remained the same as the previous month. However, compared to July 2023, they are higher by 1.7 percent. Compared to the average consumer prices of pharmaceutical products from 2015, their increase in July of this year was 9.5 percent.

According to the data of the Croatian Institute of Public Health, in the field of family [general] medicine in Croatia in 2023, a total of 57,097,415 prescriptions for medicines were issued. Last year, the number of issued prescriptions recorded year-on-year increase again. Compared to 2022, 8.4 percent more prescription drugs were dispensed last year.

Figure 3
Ten most frequently issued prescription drugs in the field of family (general) medicine in Croatia in 2023

Source: Croatian Institute of Public Health.



Anxiolytics are still leading among prescription drugs in family (general) medicine. In total, 7.8 percent of all prescription drugs apply to them. They are followed by ACE inhibitors with 6.3 percent and antacids, medicine for the treatment of ulcer disease, and medicine with an effect on peristalsis with a 6.0 percent share in the total number of prescription drugs in family (general) medicine. The ten most frequently issued prescription drugs in 2023 in Croatia are shown in Figure 3.

The data on the number of prescriptions issued in family (general) medicine in 2023 should also include 1,725,606 prescriptions issued in the preschool health care and 790,829 prescriptions issued in women's health care.

Pharmaceutical industry in Europe

— According to Eurostat data, the manufacture of pharmaceutical products and pharmaceutical preparations at the level of the European Union was on the rise last year. In 2023, the production volume of pharmaceutical products and preparations at the level of 27 countries of the European Union was higher by 29.1 percent compared to the production volume of this industry in 2021. The increase in the production volume of pharmaceutical products and preparations in the EU was 5.7 percent year-on-year. Compared to the base year of 2021, the manufacture of pharmaceutical products in the EU increased by as much as 47.8 percent last year. The production volume of pharmaceutical products compared to 2022 increased by 3.4 percent at the EU-27 level. As for the manufacture of pharmaceutical preparations in the EU, it increased by 22.4 percent last year compared to 2021 and by 3.6 percent compared to 2022.

“In 2023, the number of persons employed in the pharmaceutical industry in the European Union increased by 3.7 percent year-on-year.

In 2023, the number of persons employed in the pharmaceutical industry in the European Union increased by 3.7 percent year-on-year. Compared to 2021, 9 percent more employees worked in this sector last year. In the same period, the number of working hours increased by 9.4 percent compared to 2021, or by 5 percent compared to 2022. Last year, there was also a trend of increasing gross wages of persons employed in the pharmaceutical industry at the EU level. The average monthly gross wages of persons employed in this industry grew by 18 percent compared to 2021. The increase in gross wages amounted to 9 percent year-on-year.

“Compared to 2022, the total turnover in the pharmaceutical industry of the European Union increased by 1.7 percent last year.

In the last year, the total net turnover in the manufacture of pharmaceutical products and preparations at the level of the European Union increased as well. In 2023, the total turnover in this industry increased by 26.8 percent compared to 2021. Compared to 2022, the total turnover in the pharmaceutical industry of the European Union increased by 1.7 percent last year.

The increase in producer prices of pharmaceutical products and preparations in the European Union continued last year as well. Producer prices of pharmaceutical products and preparations in the European Union increased

THE AVERAGE MONTHLY GROSS WAGES OF PERSONS EMPLOYED IN THIS INDUSTRY GREW BY 18 PERCENT COMPARED TO 2021.

“Producer prices of pharmaceutical products and preparations in the European Union increased by 5 percent last year compared to producer prices in 2021.

by 5 percent last year compared to producer prices in 2021. Last year, the year-on-year increase in producer prices was 1.7 percent. On the domestic market, producer prices in this sector increased by 2.7 percent in 2023 compared to 2022. Compared to the producer prices of pharmaceutical products and preparations from 2021, the increase was 4.9 percent. Last year, producer prices of pharmaceutical products and preparations on the non-domestic market increased by 2 percent compared to the previous year. Compared to 2021, there was an increase by 6.3 percent.

Table 1 shows selected sectoral indicators related to the pharmaceutical industry in Europe (which includes EU countries, Norway, Switzerland, Great Britain, Serbia, Turkey, and Russia) for 2022 and EFPIA estimates for 2023. From the data presented, it is evident that the pharmaceutical industry in Europe continues to grow in terms of production volume, investment in research and development, as well as employment.

EFPIA estimates the production volume of the pharmaceutical industry in Europe at 390 billion euros, which is 7.3 percent more than in 2022. In 2023, the total value of the pharmaceutical market at ex factory prices increased by 7.4 percent. It is estimated that, in 2023, it amounted to 290 billion euros.

Table 1
Selected indicators of the pharmaceutical industry in Europe in 2022 and 2023

Notes: * Data for imports and exports include trade between EU-27 countries. ** Data for 2023 are estimated.

Source: EFPIA [2024].

	2022	2023**	Index 2023/2022
Manufacture (in millions of euros)	363,300	390,000	107.3
Exports (in millions of euros)*	683,375	680,000	99.5
Imports (in millions of euros)*	475,277	480,000	101.0
Foreign trade balance (in millions of euros)	208,098	200,000	96.1
Expenditures for research and development (in millions of euros)	47,010	50,000	106.4
Number of persons employed	894,406	900,000	100.6
Persons employed in research and development	123,465	130,000	105.3
Total value of the pharmaceutical market at factory prices	269,965	290,000	107.4
Payments for medicines from the national health care system (outpatient care)	163,813	175,000	106.8

IT IS ESTIMATED THAT IN EUROPE, PAYMENTS FOR MEDICINES FROM THE NATIONAL HEALTH CARE SYSTEM RELATED TO OUTPATIENT CARE AMOUNTED TO 175 BILLION EUROS IN 2023.

In 2023, the number of persons employed in the pharmaceutical industry in Europe, according to EFPIA estimates, was 900,000, which is an increase by 0.6 percent year-on-year. It is estimated that around 14.5 percent of employees worked in research and development. The number of persons employed in research and development in the pharmaceutical industry in Europe was 130,000. Compared to the number from 2022, 5.3 percent more employees were employed in research and development.

The export of the European pharmaceutical industry is the only indicator that EFPIA estimates was lower last year than in 2022. According to estimates, in 2023 it amounted to around 680 billion euros, which is lower by 0.5 percent than in 2022. The estimate for the import of pharmaceutical products in Europe last year was 480 billion euros, i.e., 1 percent more than in 2022. Although these are estimates from which the final data may deviate, they can still be considered significant to a certain extent. Despite the decline, the value of exported products of the pharmaceutical industry in Europe is still above the value of imports, which means that the trade balance is positive. However, it is estimated that the foreign trade surplus at the level of Europe decreased by 3.9 percent.

It is estimated that in Europe, payments for medicines from the national health care system related to outpatient care amounted to 175 billion euros in 2023, which is an increase by 6.8 percent compared to the amount from 2022. Moreover, according to EFPIA data, in the structure of the total prices of medicines in Europe in 2022, on average, 67.3 percent is the manufacturer's purchase price. On average, wholesalers lose 5 percent of the price, while pharmacies lose 17 percent. The other 10.7 percent is made up of value added tax and other government fees, which vary significantly from country to country. The range of value added tax rates charged on prescription and non-prescription drugs in European countries ranges from 0 percent in Malta to 25 percent in Norway.

In 2022, the amount of pharmaceutical industry's investment in research and development reached 50,000 million euros. Last year, the pharmaceutical industry in Europe increased its research and development expenditures by 6.4 percent year-on-year. In terms of expenditures for research and development in 2022, Switzerland is in first place in Europe, where 9,556 million euros were allocated for research and development in the pharmaceutical industry.

Table 2 shows data from the European Commission on the ten leading pharmaceutical companies in the European Union by investments in research and development in 2022. The leading company in terms of investments in research and development that year was Sanofi, which retained the first place from the previous year. In 2022, this company's investments in research and development amounted to 6,705 million euros and, compared to 2021, it increased by 17.9 percent. The intensity of investment in research and development (ratio of investment in research and development in relation to net sales) was 15.6 percent.

Table 2
Ten leading pharmaceutical companies in Europe by investments in research and development in 2022

Source: European Commission (2023).

	Expenditures for research and development (in millions of euros)	Year-on-year change [%]	Intensity [%]
Sanofi	6,705.00	17.9	15.6
Bayer	6,630.00	20.2	13.1
Boehringer Sohn	5,047.00	22.3	20.9
Novo Nordisk	2,926.22	33.6	12.3
Merck DE	2,447.00	2.0	11.0
UCB	1,513.00	-0.4	29.4
BioNTech	1,371.70	68.6	7.9
Servier	780	-2.7	16.0
Chiesi Farmaceutici	589.2	32.2	21.4
Genmab	588.31	35.5	30.0

Once again, Bayer came second in the ranking of leading pharmaceutical companies in terms of investment in research and development in 2022, with 6,630 million euros of investment and an increase by 20.2 percent year-on-year. In 2022, the largest increase in investment in research and development in this sector in Europe was recorded by BioNTech. In 2022, this company invested 68.6 percent more in research and development than the year before, and with an investment of 1,371.7 million euros, it ranked seventh. In 2022, BioNTech invested 7.9 percent of its net sales in research and development.

Compared to 2021, the ten leading pharmaceutical companies in Europe mostly increased their investments in research and development in 2022. Exceptions are UCB and Servier. In the analyzed period, UCB invested 0.4 percent less, and Servier 2.7 percent less than in 2021. It should be noted that in 2022, Servier invested 29.4 percent of its net sales in research and development and ranked among the companies with the highest intensity of research and development among the ten analyzed pharmaceutical

companies. Only Genmab, a Danish biotechnology company specializing in cancer treatment, had a greater intensity of research and development in 2022. In that year, Genmab increased its investments in research and development by 35.5 percent year-on-year and invested a total of EUR 588.31 million in research and development.

The world's largest manufacturers

It is clearly visible from the data on the sale of medicines at the global level that there has been a big change compared to the time of the pandemic. It is primarily reflected in the significant decrease in sales of the Comirnaty vaccine, whose producers are Pfizer and BioNTech, by 72.63 percent compared to 2022. In 2023, the total sales of the Comirnaty vaccine amounted to 15.3 billion US dollars, making it the second best-selling pharmaceutical product in the world.

The leading place in the list of best-selling medicines was once again taken by the oncology medicine Keytruda produced by Merck. Compared to 2020, the total sales of this medicine last year amounted to 25 billion US dollars and increased by 19.46 percent. The 2023 top-selling medicine data confirms last year's Evaluate Vantage report forecasts (Brown, Elmhirst, & Fagg, 2022) that Keytruda will overtake Comirnaty to once again become the top-selling prescription drug in 2023.

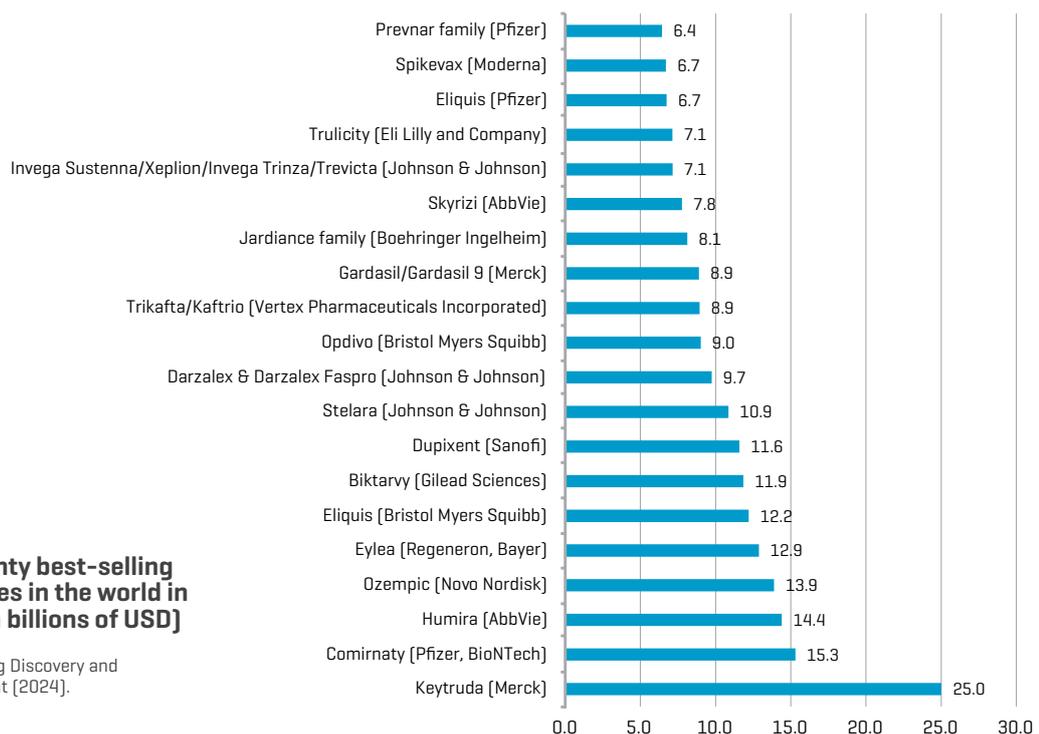


Figure 4
The twenty best-selling medicines in the world in 2023 (in billions of USD)

Source: Drug Discovery and Development (2024).

THE LEADING PLACE IN THE LIST OF BEST-SELLING MEDICINES WAS ONCE AGAIN TAKEN BY THE ONCOLOGY MEDICINE KEYTRUDA PRODUCED BY MERCK.

Some other expectations were also fulfilled, primarily those related to the sale of the medicine Ozempic. EvaluatePharma [2022] announced that, in the coming years, other medicines could also gain importance, such as the diabetes and obesity medicines Ozempic (manufactured by Novo Nordisk) and Mounjaro (manufactured by Eli Lilly). This happened because, in 2023, Ozempic became the fourth medicine in terms of sales value. Novo Nordisk earned 13.9 billion euros from its sale, which is an increase by 38.0 percent compared to 2022. In 2023, Wegovy, a medicine that has the same active substance as Ozempic, and is intended specifically for the treatment of obesity, recorded an increase in sales of as much as 280 percent year-on-year. According to the data of Drug Discovery and Development [2024], in 2023, the total sales of this medicine amounted to 3.3 billion dollars.

Although it is not on the list of the twenty best-selling medicines in the world, the biggest jump in sales in 2023, by far, was recorded for Mounjaro, produced by Eli Lilly. In total, the sales volume of this medicine for the treatment of type 2 diabetes amounted to 5.2 billion dollars in the last year. That is a 968.6 percent increase in sales.

Last year, there was a change in the order of the list of leading companies by sales of prescription drugs. Pfizer is no longer the leading company on the list, due to the aforementioned decrease in sales of the Comirnaty vaccine. This vaccine is still Pfizer's best-selling prescription drug, but the decrease in sales by over 70 percent resulted in the company falling from first to sixth place among the world's leading companies in sales of prescription drugs (Table 3).

“In 2023, Johnson & Johnson is in first place in terms of sales of prescription drugs, with sales of 53.463 billion US dollars.

In 2023, Johnson & Johnson was in first place in terms of sales of prescription drugs, with sales of 53.463 billion US dollars. Last year, the company's sales of prescription drugs increased by 6.5 percent compared to the previous year, thanks to which it jumped from third place to first. Despite a 6.1 percent decrease in sales, AbbVie remained second in the ranking. It should be noted that lower sales of this company are expected considering that the patent protection of its best-selling medicine, Humira, expired in 2023.

Table 3
The top ten companies in the prescription drug market by sales and their investment in research and development in 2023, in billions of USD

Source: EvaluatePharma [2023] according to Christel [2024].

	Sales	R&D investment	R&D as a % of revenue from sales of prescription drugs
Johnson & Johnson	53.463	14.805	27.7
AbbVie	52.734	7.029	13.3
Novartis	52.473	8.600	16.4
Merck & Co	50.846	29.711	58.4
Roche	49.110	14.743	30.0
Pfizer	48.218	10.679	22.1
Bristol Myers Squibb	44.398	9.112	20.5
AstraZeneca	43.790	10.267	23.4
Sanofi	40.805	7.278	17.8
GlaxoSmithKline	36.758	7.152	19.5

In general, the composition of the ten leading pharmaceutical companies at the global level last year remained unchanged compared to previous years. Most of them increased their revenues from the sale of prescription drugs year-on-year. The exceptions are AbbVie [-6.13 percent], Bristol Myers Squibb [-2.24 percent], GlaxoSmithKline [-3.91 percent], and the aforementioned Pfizer [-47.19 percent].

“Out of the ten leading pharmaceutical companies in the world, Merck & Co had the largest investments in research and development, amounting to 29.711 billion dollars.

Out of the ten leading pharmaceutical companies in the world, Merck & Co made the largest investments in research and development, amounting to 29.711 billion dollars. It is also the company with the highest investment intensity in research and development in 2023. Last year, Johnson & Johnson also made significant investments in research and development, i.e., this company invested 14.805 billion US dollars in research and development, which is 27.7 percent of its sales of prescription products. Although slightly lower than a year earlier, Roche’s investments in research and development are still at a high level and account for 30 percent of the company’s sales of prescription drugs last year [Table 3].

In general, it can be said that there were no significant changes among the world’s leading companies in the last year. However, the fact that vaccines and the fight against the COVID-19 disease are not even close to the importance they had in the years of the pandemic cannot be ignored. The business performance of pharmaceutical companies is more similar to the one before the pandemic. Oncology medicines, as well as some other medicines, such as those for the treatment of diabetes, are again becoming the key to the successful business of pharmaceutical companies on the global market.

Leading companies in Croatia

The ten leading companies in the pharmaceutical industry in Croatia according to total revenue achieved in 2023 are as follows: Pliva Hrvatska d.o.o., JGL d.d., Belupo d.d., Hospira Zagreb d.o.o., Genera d.d., PharmaS d.o.o., Krka-Farma d.o.o., Fidifarm d.o.o., Yasenka d.o.o., and Fagron Hrvatska d.o.o. The first nine companies are registered for the manufacture of pharmaceutical preparations, while the tenth on the list, Fagron Hrvatska, manufactures pharmaceutical products.

Together, the ten leading companies in the pharmaceutical industry in 2023 achieved a total revenue of EUR 1,223.66 million, which increased by 10.5 percent year-on-year. In 2023, almost 60 percent of the total revenue of the ten leading companies in the sector was generated by Pliva Hrvatska. This company is again in first place with 730.11 million euros in total revenue, which is 10.99 percent more than in 2022. The second company on the list of the leading ones in this sector is JGL. Its total revenue amounted to 133.68 million euros, which is 16.17 percent more than in 2022.

Most of the leading companies achieved higher revenue in 2023 compared to 2022. Exceptions are Hospira Zagreb and Fagron Croatia. Hospira's total revenue was lower by 3.7 percent year-on-year. In the same period, Fagron reduced its total revenue by 0.8 percent.

Table 4
Performance indicators of ten leading companies in the pharmaceutical sector in Croatia in 2022 and 2023

Note: Debt ratio = total liabilities/total assets; current ratio = current assets/current liabilities; gross margin = gross profit/total revenue * 100; labor productivity = total revenue/number of persons employed.

Source: The author's calculation according to Poslovna Hrvatska data.

	2022	2023	Index 2023/2022
Total revenue (in millions of euros)	1,107.41	1,223.66	110.50
Gross profit (in millions of euros)	202.11	173.44	85.81
Number of persons employed	5,298	5,688	107.36
Labor productivity (in euros)	209,024.97	215,129.58	102.92
Gross margin (in %)	18.25	14.17	77.66
Current ratio	2.59	2.28	87.94
Debt ratio	0.14	0.46	318.42

IN 2023, THE GROSS PROFIT OF THE TEN LEADING COMPANIES IN THE SECTOR WAS REDUCED BY 14.19 PERCENT COMPARED TO 2022.

The gross profit of the ten leading companies in the sector in 2023 was reduced by 14.19 percent compared to 2022. Last year, the top ten companies made a total gross profit of 173.44 million euros. In 2023, the highest gross profit was achieved by Pliva Hrvatska. It amounted to 99.46 million euros and was reduced by 18.44 percent year-on-year. The biggest increase in gross profit was recorded by Genera, which, after a loss of 1.23 million euros in 2022, ended last year with a gross profit in the amount of 4.12 million euros.

“In 2023, ten leading companies had a total of 5,688 persons employed, which is 7.36 percent more than the number of persons employed in 2022.

In 2023, ten leading companies had a total of 5,688 persons employed, which is 7.36 percent more than the number of persons employed in 2022. Out of the total number, 2,870 of persons employed, i.e., half of them, were employed in Pliva. This company employed 10.13 percent more employees last year compared to 2022. Most of the leading companies in the sector increased the number of persons employed on a year-on-year basis. Exceptions are Belupo and Fagron Croatia. In 2023, Belupo employed 7.26 percent fewer employees than the year before. In the same period, the number of persons employed in the company Fagron Hrvatska decreased by 3.03 percent.

Table 5
Business indicators of ten leading pharmaceutical manufacturers in Croatia in 2023

	Total revenue (in millions of euros)	Index 2023/2022	Debt ratio	Current ratio	Gross margin	Labor productivity (in euros)
Pliva Hrvatska d.o.o.	730.11	110.99	0.57	2.35	13.62	254,395.92
JGL d.d.	133.68	116.17	0.44	2.05	9.69	198,930.94
Belupo d.d.	116.63	112.43	0.08	5.43	21.30	121,749.37
Hospira Zagreb d.o.o.	104.53	96.26	0.22	1.29	23.01	247,138.43
Genera d.d.	41.42	119.73	0.29	3.65	9.95	125,518.92
PharmaS d.o.o.	35.75	116.73	0.64	1.90	7.32	316,372.31
Krka-Farma d.o.o.	29.60	104.80	0.13	2.82	5.09	152,586.37
Fidifarm d.o.o.	16.26	111.70	0.42	5.54	16.64	378,143.16
Yasenka d.o.o.	8.05	123.70	0.34	1.09	7.15	151,882.55
Fagron Hrvatska d.o.o.	7.60	99.17	0.21	3.14	7.93	237,523.03

Note: Debt ratio = total liabilities/total assets; current ratio = current assets/current liabilities; gross margin = gross profit/total revenue * 100; labor productivity = total revenue/number of persons employed.

Source: The author's calculation according to Poslovna Hrvatska data.

IN 2023, THE GROSS MARGIN AT THE LEVEL OF TEN LEADING COMPANIES IN THE PHARMACEUTICAL INDUSTRY WAS 14.17 PERCENT.

The increase in total revenue, more significant than the increase in the number of persons employed at the top ten level, resulted in an increase in labor productivity in 2023 by 2.92 percent year-on-year. Last year, the company Fidifarm had the highest labor productivity and it amounted to 378,143.16 euros. Fidifarm, which employed 43 employees in 2023, achieved EUR 16.26 million in total revenue in the same year, i.e., 11.7 percent more than in 2022.

In 2023, gross margin at the level of ten leading companies in the pharmaceutical industry was 14.17 percent. It was reduced by 22.34 percent compared to 2022, when it was 18.25 percent. Last year the highest gross margin was achieved by Hospira [23.01 percent] and Belupo [21.30 percent].

In 2023, the current ratio at the level of ten leading companies was 2.29. Although it was slightly lower compared to the previous year, its value is still above 2, which means that, in general, the leading companies in the pharmaceutical industry have no problems meeting their obligations. Last year, companies Hospira and Yasenka had problems with maintaining current liquidity. More precisely, their current ratios were below 1.5 last year. PharmaS, whose current ratio last year was 1.9, also had a slightly less favorable situation when it comes to settling current liabilities.

Last year, at the level of the sector's ten leading companies, no problem of excessive indebtedness was identified. The debt ratio for the top ten last year was 0.46, which is slightly below the limit of 0.5 that points to the problem of over-indebtedness. Last year, Pliva Hrvatska [0.57] and PharmaS [0.64] were indebted above the acceptable limit.

“The debt ratio for the top ten last year was 0.46, which is slightly below the limit of 0.5 that points to the problem of over-indebtedness.

Conclusion

According to the data on the operations of pharmaceutical companies in the last year, it can be clearly seen that the coronavirus pandemic is over and that the market is once again turning to medicines for other diseases, which were the biggest revenue generators before the pandemic. In May of this year, AstraZeneca began withdrawing the COVID-19 vaccine, which is no longer available for delivery [Barišić, 2024]. The company announced that it will focus on the development of oncology medicines, medicines for rare diseases, and biopharmaceuticals [Kiderlin, 2024]. Pfizer continues to earn significant amounts from the sale of its COVID-19 vaccine, which, moreover, was also their best-selling prescription drug last year. However, these amounts are far below those of 2022 and testify that the pharmaceutical industry is in the post-pandemic period.

“Research and development was and remains the key to the success of pharmaceutical companies.

Research and development was and remains the key to the success of pharmaceutical companies. Changes in the market also require changes in the areas of investment in research and development. This year, the afore-mentioned changes also happened in Pliva, the largest Croatian pharmaceutical company. Pliva will no longer develop active pharmaceutical ingredients for new generic medicines. It will focus on the research of innovative molecules and the development of new forms of existing molecules [Puškarić, 2024] and will establish a center of excellence for research and development of small molecules [Bajgorić Šantić, 2024].

Despite the changes that marked the pharmaceutical industry in the last year, pharmaceutical companies performed well. Positive trends in business have been recorded at the global and European level. The leading pharmaceutical companies in Croatia are no exception. Last year, the Croatian pharmaceutical industry was marked by an increase in exports and imports, employment and wages, as well as prices.

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