

Insight vs Foresight

In a 2015 speech, famed investor Stanley Druckenmiller shared a key lesson one from one of his first Wall Street mentors, to which he attributed much of his success:

[N]ever, ever invest in the present. It doesn't matter what a company's earning, what they have earned. He taught me that you have to visualize the situation 18 months from now, and whatever that is, that's where the price will be, not where it is today. And too many people tend to look at the present, oh this is a great company, they've done this or this central bank is doing all the right things. But you have to look to the future. If you invest in the present, you're going to get run over.¹

What we think this boils down to is **insight** vs **foresight**. Financial markets are filled with insightful participants who are driven, informed and analytical. Frankly, these qualities are often necessary for a successful investing career. But what distinguishes the upper echelon of investors is foresight – the ability, as Mr. Druckenmiller described, to project the future and position one's portfolio accordingly. Mr. Druckenmiller makes this sound easy, but for both behavioral and probability reasons, it is not. If it were easy, we'd have far more multi-billionaires.

Going back a year, two key equity market foresights would have been the growing prominence of artificial intelligence (exemplified by ChatGPT) and the new class of GLP-1 weight loss drugs (such as Ozempic and Wegovy). 2023 was all about GPT-4 and GLP-1. Direct or tangential investments that touched on these trends yielded outsized returns. All this begs the question, what do we think investors will be talking about a year from now that will seem obvious in hindsight?

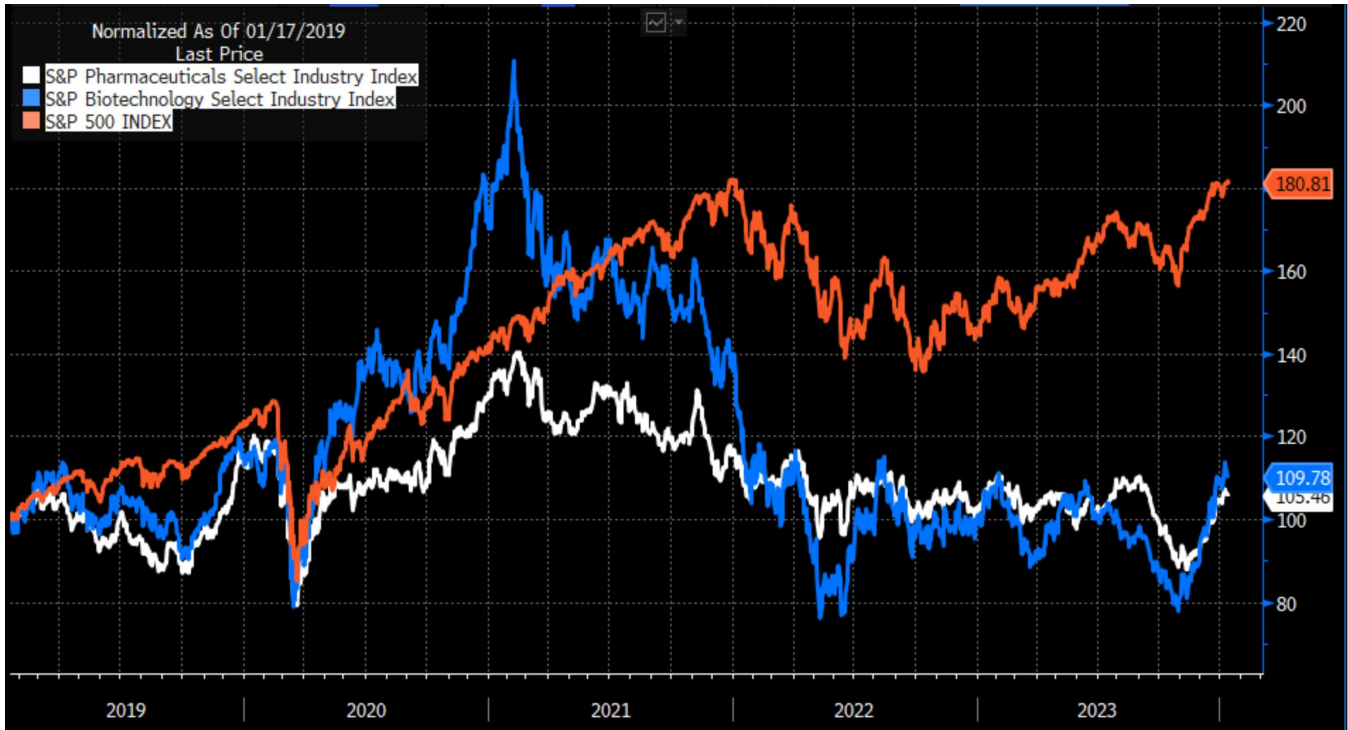
Sticking with AI and healthcare, we think their union could result in meaningful scientific breakthroughs and an investor reassessment of the generally downbeat biopharma sector (apart from GLP-1 standouts Eli Lilly and Novo Nordisk). Speaking at J.P. Morgan's healthcare conference in San Francisco earlier this month, Nvidia CEO Jensen Huang noted: [W]e could apply the same methodology that we use in computer-aided chip design to help the world of drug discovery go from computer-aided drug discovery to computer-aided drug design."² Mr. Huang went on to predict that "Almost everything will largely start in silico, largely end in silico." Meaning that biologists and engineers will be able to discover and design drugs via AI-enabled computer simulations.

The drug discovery and clinical trial process is notoriously long, costly and risky. Per Congressional analysis, only about 12% of drugs make it through clinical trials to FDA approval at an average development cost ranging from \$1-2 billion, with a discovery to commercialization timeline of 7-10 years.³ While there is significant variation in cost, timing and success rate by therapeutic modality and medical indication, the general point remains that bringing new drugs to market is fraught with scientific and execution risk. Given the capital intensity of the biopharma industry – with companies annually spending 20% of sales on research and development⁴ – firms are keen to deploy AI-enabled solutions that can save time and money in the drug discovery process, while reducing risk. This is a potential win-win-win scenario where biopharma firms, their technology partners and, ultimately, future patients stand to benefit.

It's worth noting some progress in AI-enabled drug discovery to date. Google's DeepMind unit introduced its predictive protein folding product [AlphaFold](#) several years ago to much fanfare and has rapidly improved the product since, with the ability today to predict the structure of ~200 million proteins (nearly all proteins known to science).⁵ In order to capitalize on these discoveries, DeepMind spun out a new private company focused solely on drug discovery called [Isomorphic Labs](#), which earlier this month announced multibillion dollar deals with Eli Lilly and Novartis focused on the AI-enabled discovery of new small molecule drugs.⁶

If we are in fact sitting on the cusp of a new era of biotechnological innovation, enabled by rapid advances in computing power, biopharma stocks certainly don't reflect that. Apart from the GLP-1 firms (and the short-lived Covid-stock mania), both large cap biopharma stocks and their small/mid cap brethren have been terrible

performers. Since 2019, the large cap pharmaceutical index has risen 5.5% and the small-cap index by 9.8%, compared to the S&P 500's nearly 81% appreciation. Over the last ten years, the picture is even more grim, with the biopharma index up a total of 3.4% vs. 166% for the S&P 500.⁷ Underperformance is an understatement.



A more positive fundamental outlook for the biopharma sector categorized by new discoveries, less capital-intensity, less clinical risk and a timelier path from the clinic to commercialization – combined with depressed valuations – could reignite investor interest. While underperformance does not always lead to outperformance, it typically is a precondition for better future returns. The key question is always one of timing. Hopefully, our insight into the current state of AI and biopharma leads to the correct foresight that these firms are poised to recover over the coming years as investors better appreciate the opportunity for a more efficient and productive business model.

Attached as an appendix, we have included a comp sheet of leading large cap U.S. and European biopharma firms showing financial figures and valuation metrics. Please note that these are for illustrative purposes, not investment recommendations. For a discussion on what companies in this sector may be suitable for your portfolio, please contact us.

We hope you and your families are well. As always, please reach out with any questions.

Sincerely,

Peter Karmin
Managing Member

Stuart Loren
Director

Biopharma Company Appendix

(USD in Millions)

Company Name	Market Cap	Net Debt To EBITDA	Dividend Yield (%)	Sales		Net Income		Free Cash Flow		PE Ratio		ROCE 2023 A	ROIC 2023 A
				2024 E	2025 E	2024 E	2025 E	2024 E	2025 E	2024 E	2025 E		
Eli Lilly & Co	\$ 602,401.89	1.63	0.82	\$ 33,675.88	\$ 39,187.77	\$ 5,925.52	\$ 11,144.29	\$ 4,190.31	\$ 8,037.54	96.62	51.07	69.78%	27.61%
Merck & Co Inc	\$ 300,256.40	2.01	2.60	\$ 59,919.13	\$ 63,328.04	\$ 3,549.31	\$ 21,358.46	\$ 9,649.35	\$ 19,437.86	85.68	13.91	41.17%	23.52%
AbbVie Inc	\$ 285,098.98	1.50	3.84	\$ 54,018.39	\$ 53,552.25	\$ 19,958.14	\$ 19,172.25	\$ 19,572.90	\$ 19,814.11	14.42	14.41	115.09%	25.89%
Bristol-Myers Squibb Co	\$ 101,737.89	1.66	4.80	\$ 44,800.31	\$ 45,907.41	\$ 15,602.82	\$ 14,568.61	\$ 15,179.35	\$ 14,724.78	6.63	6.83	25.98%	11.54%
Novo Nordisk A/S	\$ 480,528.00	-0.21	0.97	\$ 33,667.41	\$ 41,156.33	\$ 12,153.31	\$ 14,749.64	\$ 10,936.96	\$ 12,834.37	39.81	32.63	72.87%	57.76%
AstraZeneca PLC	\$ 208,558.88	1.39	1.38	\$ 45,786.70	\$ 50,535.33	\$ 11,370.76	\$ 12,860.78	\$ 7,936.48	\$ 10,223.09	18.39	16.22	18.27%	11.89%
Sanofi SA	\$ 130,813.74	0.81	3.74	\$ 48,228.91	\$ 51,078.81	\$ 11,094.50	\$ 10,708.76	\$ 8,704.34	\$ 9,158.74	11.75	12.07	12.41%	9.96%
Novartis AG	\$ 245,213.99	0.56	3.45	\$ 46,785.35	\$ 47,780.36	\$ 13,567.77	\$ 14,590.47	\$ 13,457.20	\$ 14,897.45	16.14	14.83	15.94%	11.12%
GSK PLC	\$ 82,179.04	1.47	3.52	\$ 37,959.59	\$ 39,806.98	\$ 7,968.42	\$ 8,114.43	\$ 6,869.11	\$ 7,007.48	10.28	10.09	38.27%	20.53%
Roche Holding AG	\$ 237,212.55	0.76	3.80	\$ 69,394.74	\$ 72,016.47	\$ 17,253.87	\$ 18,056.95	\$ 16,783.50	\$ 17,346.69	13.55	12.86	60.20%	30.19%
Pfizer Inc	\$ 159,906.42	1.08	5.93	\$ 58,778.81	\$ 60,211.33	\$ 8,903.16	\$ 13,224.33	\$ 8,742.94	\$ 4,109.53	18.43	12.28	41.12%	28.53%
Johnson & Johnson	\$ 386,416.36	0.17	2.97	\$ 84,760.05	\$ 88,145.88	\$ 25,528.91	\$ 26,074.14	\$ 19,695.20	\$ 23,458.31	16.07	15.03	27.92%	18.18%
Bayer AG	\$ 35,847.49	3.55	7.14	\$ 52,231.58	\$ 52,669.78	\$ 6,460.01	\$ 6,184.69	\$ (1,726.36)	\$ 4,904.41	5.58	5.85	11.87%	8.57%
Amgen Inc	\$ 162,415.83	1.83	2.97	\$ 28,109.07	\$ 32,445.04	\$ 9,991.22	\$ 10,768.38	\$ 9,890.93	\$ 11,805.42	16.36	15.28	139.21%	21.81%
Vertex Pharmaceuticals Inc	\$ 112,733.82	-2.43	-	\$ 9,866.80	\$ 10,589.13	\$ 3,878.80	\$ 4,291.68	\$ 3,791.97	\$ 4,314.06	29.21	26.62	30.01%	30.91%
Gilead Sciences Inc	\$ 107,147.14	1.42	3.49	\$ 27,065.43	\$ 27,632.33	\$ 8,513.35	\$ 9,007.30	\$ 8,919.31	\$ 9,445.74	12.68	11.85	39.21%	18.73%
Regeneron Pharmaceuticals Inc	\$ 102,118.19	-2.59	-	\$ 12,946.88	\$ 13,707.58	\$ 4,902.10	\$ 5,068.52	\$ 5,065.47	\$ 4,615.24	22.14	21.40	22.92%	20.99%
Biogen Inc	\$ 35,672.47	2.01	-	\$ 9,925.00	\$ 9,759.28	\$ 2,183.25	\$ 2,327.10	\$ 2,728.53	\$ 2,319.20	16.46	15.55	23.84%	14.75%
		0.86	3.43							25.51	17.25	46.01%	22.22%

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Citations and Disclosures

¹ Stanley Druckenmiller, Speech at The Lost Tree Club (Jan 18, 2015).

² Jensen Huang at J.P. Morgan Healthcare Conference (Jan 10, 2024). Available at: <https://blogs.nvidia.com/blog/nvidia-ceo-ai-drug-discovery-jp-morgan-healthcare-2024/>

³ Research and Development in the Pharmaceutical Industry, Congressional Budget Office (April 2021).

⁴ 2023 PhRMA Annual Membership Survey, Table 2 (July 26, 2023), available at: <https://phrma.org/en/resource-center/Topics/Research-and-Development/2023-PhRMA-Annual-Membership-Survey>.

⁵ AlphaFold, <https://deepmind.google/technologies/alphafold/>.

⁶ Isomorphic Labs kicks off 2024 with two pharmaceutical collaborations (Jan 7, 2024) available at: <https://www.isomorphiclabs.com/articles/isomorphic-labs-kicks-off-2024-with-two-pharmaceutical-collaborations>.

⁷ Bloomberg.

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