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Who Really Pays for Price Setting? America's Retirees

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April 2026

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Executive Summary

Everyday Americans own over 80% of the biopharma industry – making its long- term growth central to their economic security. Government price-setting policies, like the Most Favored Nations policy, would trigger major losses in the U.S. capital markets and economic growth, including:

- Wiping out nearly $886 billion in equity market value of U.S. companies.
- Reducing the supply of U.S. investment-grade corporate bonds by $60 billion.
- Cutting $46 billion in annual returns on public pension funds – a $1,267 (11%) decrease a year – for 36 million Americans.

The full negative financial impacts would be even larger after taking into account the effects on individually held 401(k) accounts, IRAs, and brokerage accounts.

Background

Millions of Americans are invested in the success of the U.S. biopharmaceutical industry—even if they don't directly own individual stocks. Their retirement savings are held in pensions, mutual funds, and other long-term investment vehicles managed by institutional investors such as state and local retirement systems, union and trade pensions, and mutual fund managers, which depend on strong, long-term corporate performance to pay current and future retirees.

To fulfill these obligations, institutional investors focus their investments on large, stable, and liquid companies with strong economic fundamentals and solid corporate governance. Biopharmaceutical companies match this profile. As a result, institutional investors own more than 80 percent of the shares of U.S.-listed, publicly traded biopharmaceutical companies.

Put simply, the retirement security of millions of American workers and families is directly tied to the financial health of the biopharmaceutical industry. When biopharmaceutical companies succeed over the long term, Americans' pensions and retirement savings are stronger and more secure.

If an MFN drug pricing policy is fully implemented, the negative impacts on pension fund holders would be substantial. Revenues of U.S. biopharmaceutical companies could be cut by 30% globally and 50% domestically. Consequently, $1 trillion of U.S. biopharmaceutical company market value could be wiped out and investment-grade bond yields could be cut by 60 basis points.

[1] Nam D. Pham is Managing Partner at ndp | analytics.

As a result, the annual returns of public pension funds for 36 million Americans could decline by $46 billion. On a per-account basis, this amounts to a $1,267 decrease in yearly returns, including $211 from fixed-income securities and $1,056 from equities, equivalent to an 11.1% reduction in annual pension returns.

Ownership of U.S. Biopharmaceutical Companies

It may come as a surprise to some that the U.S. biopharmaceutical industry is owned primarily by the American people, either directly or indirectly through stocks held in various investment vehicles. This report analyzes the ownership data of 514 U.S.-based public biopharmaceutical companies listed on the NYSE and Nasdaq exchanges.[2] As of Q4 2025, institutional investors, such as pension funds and mutual funds, hold more than 80% of the stock shares (equities) of U.S.-based public biopharmaceutical companies, and private investors hold about 18%. Corporate officers and directors own just 1.3% of total shares.[3] (Figure 1)

Publicly-traded companies are owned by three broad categories of shareholders: institutional investors, retail investors, and corporate officers and directors.

- *Institutional investors* are business entities that manage at least $100 million in public equities on behalf of others, such as pension funds, life insurance companies, endowments, foundations, and mutual funds. Institutions generally invest in large, stable, and liquid companies with strong economic fundamentals and good corporate governance, and account for the largest share of equity ownership in the market.
- *Retail investors*, or private investors, are individuals who buy shares through their brokerage accounts to manage their own investments.
- *Corporate officers and directors* who manage the company's business, 10% stockholders, and anyone who possesses inside information (referred to as "insiders" by the SEC).

The total market capitalization of the U.S. biopharmaceutical industry is currently over $3.8 trillion, ranging from $1.2 million (Protagenic Therapeutics) to nearly $1 trillion (Eli Lilly). The top 10 largest biopharmaceutical companies account for 77.2% of the total market capitalization of the U.S. biopharmaceutical industry. The top 20 and 50 biopharmaceutical companies account for 85.5% and 96.3%, respectively. (Table 1)

Although the magnitudes vary slightly, ownership patterns are consistent across both small and large public biopharmaceutical companies. Institutional investors hold the largest share, while corporate officers and directors own a small portion of the company. Notably, the percentage ownership of corporate officers and directors declines as companies grow larger. (Table 1)

[2] Institutional ownership is derived from filings of SEC Form 13F. Ownership data of each company is gathered and verified from multiple sources, including Nasdaq, Vickers, Yahoo Finance, and Finra.
[3] The aggregated industry figures are weighted by market capitalization.

Figure 1.
Ownership of U.S. Biopharmaceutical Companies (as of Q4 2025)

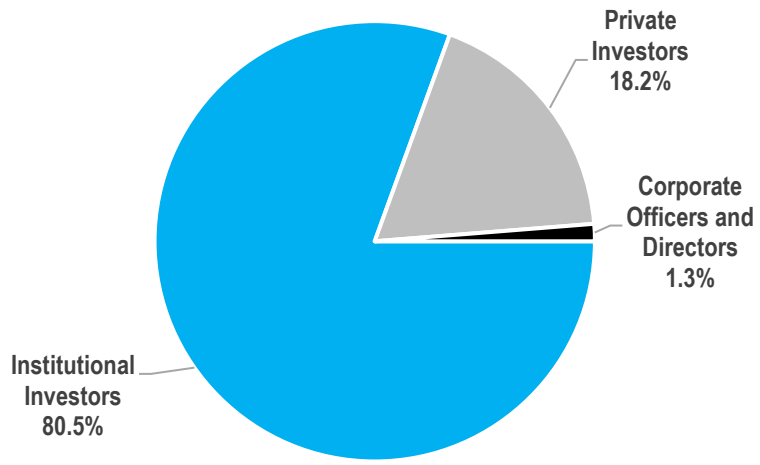


Table 1.
Ownership of U.S. Biopharmaceutical Companies by Market Capitalization (as of Q4 2025)

	Share of the Biopharma Industry	Institutional Investors	Private Investors	Corporate Officers & Directors
All	100.0%	80.5%	18.2%	1.3%
Top 10	77.2%	78.6%	21.2%	0.2%
Top 20	85.5%	80.2%	19.5%	0.3%
Top 50	96.3%	80.8%	18.5%	0.7%

Ownership matters because the financial returns (profits) generated by biopharmaceutical companies are, in large part, shared among the owners, principally through dividends and stock repurchases, which also help drive stock price increases. These streams support the growth of the owners' – that is, Americans' – pension funds and retirement accounts.

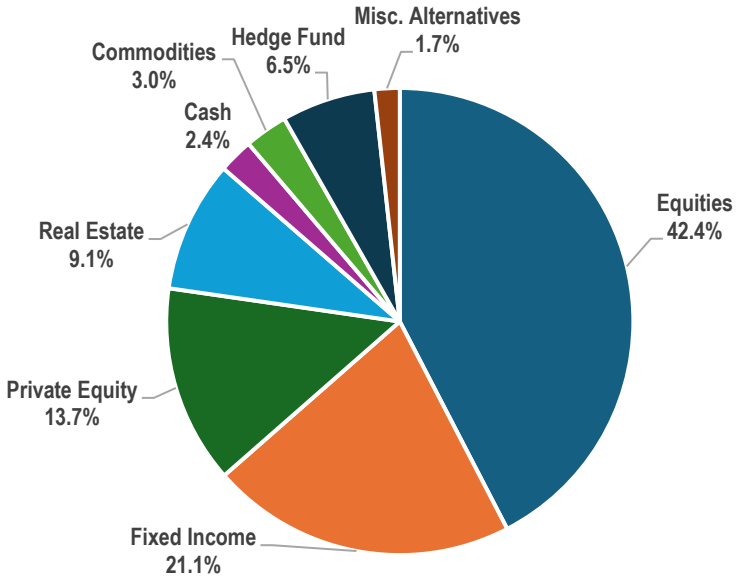
Public Pension Fund Asset Allocation

Public pension funds currently manage nearly $6 trillion in assets of more than 36 million public pension accounts of all active workers, retirees, beneficiaries, and inactive members entitled to future benefits in the United States. Public pension funds invest in both short-term (e.g., money market funds and short-duration bonds) and long-term

assets (e.g., equities and long-duration bonds).[4] State and local pension funds invested 42% of their assets (approximately $2.5 trillion) in equities, including biopharmaceutical companies.[5] (Figure 2)

Public pension funds own biopharmaceutical companies both directly in their portfolios and indirectly through investments in other products such as ETFs (exchange-traded funds). This analysis examines the biopharmaceutical equity holdings of twelve large public pensions, which account for 40% of total public pension assets. According to their 2025 SEC 13F filings, these twelve public pension funds hold about 4.5% of their public equity investments in biopharmaceutical companies.

Figure 2.
Asset Allocation for State and Local Pension Funds, 2024



Additionally, public pension funds indirectly hold biopharmaceutical companies through ETFs and other third-party managed funds. For example, the California Public Employees' Retirement System (CalPERS), the largest U.S. pension fund, directly owns $7.6 billion in biopharmaceutical companies, representing 4.6% of its public equity investments. CalPERS also has $15.9 billion, nearly 10% of its total equity assets, invested in the Vanguard S&P 500 Index ETF. The S&P 500 index currently includes 15 biopharmaceutical companies, accounting for about 4.5% of its total market capitalization. Together, CalPERS directly and indirectly holds more than 5% of its equity investments in biopharmaceutical companies.

Similarly, the Teacher Retirement System of Texas (Texas STRS), one of the largest U.S. pension funds, directly owns $1.1 billion in biopharmaceutical companies, accounting for 4.3% of its public equity investments. Texas STRS

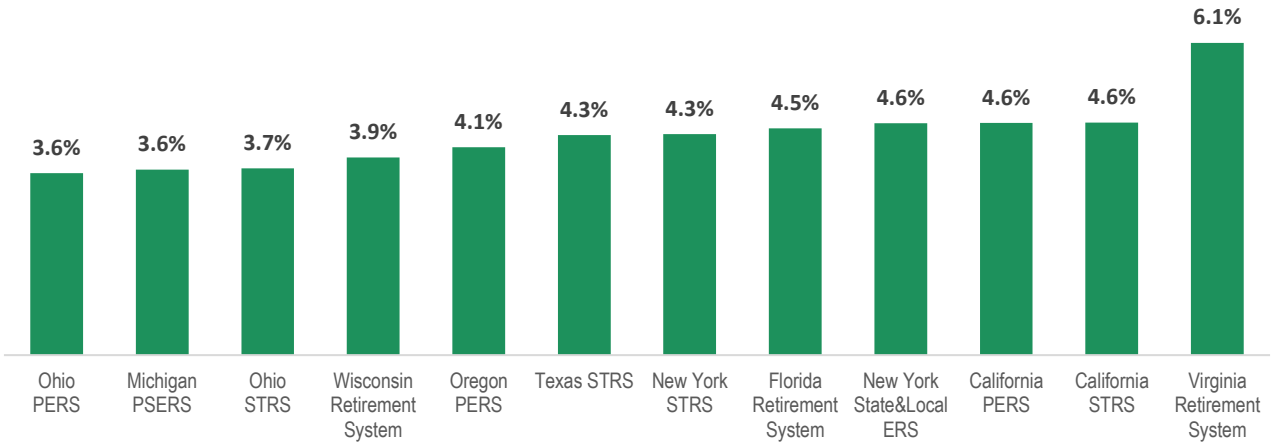
[4] Annual Survey of Public Pensions, Census, May 2025; https://www.census.gov/newsroom/press-releases/2025/2024-annual-survey-public-pensions.html
[5] Public Plans Data; https://publicplansdata.org/quick-facts/national/

also has $1.5 billion, over 6% of its total equity assets, invested in the Vanguard S&P 500 Index ETF. Together, Texas STRS directly and indirectly holds about 5% of its equity investments in biopharmaceutical companies.

While public pension funds such as CalPERS and Texas STRS hold shares of biopharmaceutical companies directly or indirectly, the Virginia Retirement System directly owns 6.1% of its total equity assets, or nearly $1 billion, in biopharmaceutical companies.

Figure 3 below shows the share of biopharmaceutical companies in the equity investment of twelve public pension funds.[6]

Figure 3.
Share of Public Pension Fund Equity Investments in U.S. Biopharmaceutical Companies (as of Q3 2025)



Impacts of the MFN Drug Pricing Policy on Biopharmaceutical Company Bond Issuances and Stocks

The Administration is proposing policies to peg U.S. drug prices to those paid by other developed countries.[7] Studies estimate that a most-favored-nation (MFN) drug pricing policy that pegs to the lowest price level would reduce U.S. biopharmaceutical companies' domestic revenues by approximately 50%.[8]

The decline in revenues would substantially affect bond issuances and stock prices of U.S. biopharmaceutical companies. Biopharmaceutical corporate bonds make up nearly 4% of investment-grade U.S. corporate bonds. During 2023-25, U.S. biopharmaceutical companies in the S&P 500 index issued a total of $178.7 billion in corporate

[6] Excluding holdings in ETFs and other third-party managed funds. Individual pension holdings in Q3 2025. www.13f.info/
[7] https://www.whitehouse.gov/presidential-actions/2025/05/delivering-most-favored-nation-prescription-drug-pricing-to-american-patients/
[8] For example, Philipson, Tomas J., Deyu Zhang, and Qi Zhao. 2025. "The Impact on Patient Health of Most-Favored-Nation Pricing of Already Marketed Drugs." Policy Brief. The University of Chicago.

bonds, averaging $59.6 billion per year.[9] During the same period, U.S. corporations issued a total of $4.6 trillion investment-grade bonds, averaging $1,521.1 billion a year.[10]

If the MFN drug pricing policy reduced industry revenues of U.S. biopharmaceutical companies by 30% globally and 50% domestically, U.S. biopharmaceutical companies would no longer need to issue $60 billion in corporate bonds annually to finance their R&D for new therapeutics. If US biopharmaceutical companies stopped issuing bonds, demand for other investment-grade corporate bonds would increase, as institutional investors such as pension funds would need to replace the biopharmaceutical bonds. With a higher demand for other investment-grade bonds, the price of other investment-grade bonds would go up, and therefore, the yield of other investment-grade bonds would go down. Using estimates of Treasury demand and yields, the MFN policy would reduce investment-grade bond issuance by $60 billion and investment-grade bond yields by 60 basis points.[11]

The decline in revenues from existing and new drugs would decrease the stock prices of biopharmaceutical companies. Although many factors influence stock prices, earnings are among the most significant. Analysts estimate that a 5% increase in positive earnings surprises often leads to 2-10% rises in stock prices, while negative surprises trigger declines of 5-15%. Furthermore, companies with consistent positive surprises deliver returns 12-15% higher, while consecutive negative surprises often lead to sustained underperformance, with stocks showing 20-25% lower returns over 12 months.[12] Conservatively, this analysis assumes a 1:1 linear relationship of a 1% decline in revenue results in a 1% reduction in the annual stock return.

As of Q1 2026, the market capitalization of 14 U.S. biopharmaceutical companies in the S&P 500 index totaled nearly $3.0 trillion, accounting for approximately 5.0% of the total market capitalization of S&P 500 companies.[13] Implementing the MFN drug pricing policy would reduce the market capitalization of these 14 large U.S. biopharmaceutical companies by $886.3 billion.

Financial Impacts of MFN Drug Pricing on Public Pension Funds

The reduction in high-grade bond yields and the decline in the market capitalization of U.S. biopharmaceutical companies will negatively affect the financial returns of pension funds. Public pension assets totaled $6 trillion for 36 million people including retirees, beneficiaries, and active and inactive members, of which $1.3 trillion is in investment-grade fixed-income securities ($6 trillion assets x 21.15% in fixed income securities) and $127 billion is in biopharmaceutical equities ($6 trillion assets x 42.4% in equities x 5.0% in biopharma equities). (Table 2)

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[9] 14 biopharmaceutical companies in S&P 500 are AbbVie, Amgen, Biogen, Bristol-Myers Squibb, Eli Lily, Gilead Sciences, Incyte Sciences, Johnson & Johnson, Merck & Co, Moderna, Pfizer, Regeneron, Vertex, and Viatris. Complete List of S&P 500 Companies by GICS Sector, MoneyWise; https://moneywise.com/investing/sp-500-companies

[10] US Corporate Bonds Statistics, SIFMA; https://www.sifma.org/resources/research/statistics/us-corporate-bonds-statistics/

[11] Ahmed, Rashad and Alessandro Rebucci. 2024. "Dollar reserves and US yields: Identifying the price impact of official flows." Journal of International Economics. https://www.sciencedirect.com/science/article/abs/pii/S0022199624001016

[12] For example, "Earnings Surprises: How They Impact Stock Market Returns." Trading with the Pros, January 14, 2025, https://tradewiththepros.com/earnings-surprises/; Chen, Alex, "Impact of Earnings Reports on Stock Prices." Investor Relations Inside, August 9. 2025, https://irinsider.com/impact-of-earnings-reports-on-stock-prices/

[13] 14 biopharmaceutical companies are AbbVie, Amgen, Biogen, Bristol-Myers Squibb, Eli Lily, Gilead Sciences, Incyte Sciences, Johnson & Johnson, Merck & Co, Moderna, Pfizer, Regeneron Pharma, Vertex, and Viatris. Complete List of S&P 500 Companies by GICS Sector, MoneyWise; https://moneywise.com/investing/sp-500-companies.

Per person, pension fund assets averaged $166,667, of which $35,242 in investment-grade fixed-income securities and $3,519 in biopharmaceutical equities. The average annual return of public pension funds in the past ten years was 6.85%.[14] The investment return per-person account for public pension funds averaged $11,417 ($166,667 in assets per person x 6.85% average annual return). (Table 2)

MFN drug pricing could reduce the annual per capita return on public pensions by more than 11%, or $1,267, via two channels:

1. A 60 basis-point decline in the investment-grade bond yield reduces $211.45 in returns of a $35,242 investment in investment-grade bonds in each public pension fund account ($35,242 * 0.006). The reduction equals about 1.9% of total annual investment return ($211.45 / $11,417).

2. A 50% decline in the domestic revenue of biopharma companies leads to a $38 billion decline in biopharma stocks in public pension funds (30% stock price decline x 1:1 stock price-revenue elasticity x $127 billion biopharma stocks in public pension funds). Pension fund assets decline by $1,056 per person ($3,519 assets in biopharma stocks x 30% decline in stock prices). The decline in biopharma stocks is more than 9.2% of the annual return ($1,056 / $11,417 annual return).

Overall, the negative financial impact of the MFN drug pricing policy on public pensions of 36 million Americans is approximately $45.6. billion (36 million people x 1,267 per person). (Table 2)

Table 2.
Financial Impacts of MFN Drug Pricing Policy on Public Pension Funds

	Public Pension Funds
Total assets of public pension funds	$6.0 trillion
In fixed-income securities	$1.3 trillion
In public equities	$2.5 trillion
In biopharma equities	$0.127 trillion
Number of people in public pension funds	36 million
Average assets per person	$166,667
In fixed income	$35,242
In public equities	$70,643
In biopharma equities	$3,519
Average investment return per person	$11,417
Change in annual return in public pension funds per person due to the MFN Policy	-$1,267
In fixed-income securities	-$211
In biopharma equities	-$1,056
As % of the average investment return per person	11.1%
Change in annual return in 36 million public pension funds	-$45.6 billion

[14] Public Plans Data; https://publicplansdata.org/quick-facts/national/

Conclusion

A significant body of literature describes the significant value the biopharmaceutical industry creates for society through the widespread health benefits its products generate and the scientific and economic impacts of its R&D-intensive activities. Less well acknowledged is the important role the industry plays in the financial health and wealth of millions of ordinary Americans through pension funds and retirement accounts, where biopharmaceutical companies account for a significant share of investments. The biopharmaceutical industry is a critical economic contributor to both the health and wealth of the U.S. economy, patients, and retirees.

Biopharmaceutical companies are primarily owned by institutional investors such as pension funds, mutual funds, and endowments. Many Americans, directly or indirectly, own a part of the biopharmaceutical industry through their pension plans, IRAs, 401(k)s, and brokerage accounts. Financial returns from successful R&D investments are reflected in rising company stock prices and dividends, enabling Americans to participate in the success of biopharmaceutical companies.

The implementation of an MFN drug pricing policy that pegs the prices of medicines in the U.S. to other countries will have unintended negative consequences for public pension fund holders and other investors. Everyday Americans own over 80% of the biopharma industry – making its long- term growth central to their economic security. MFN would trigger major losses in U.S. capital markets and would diminish economic growth. Nearly $1 trillion in equity value for U.S. companies could be wiped out, cutting annual public pension fund returns for 36 million Americans by nearly $46 billion. An additional $60 billion in U.S. investment-grade corporate bonds could be imperiled, reducing access to and returns on a pension fund investment option considered among the safest.

The full negative financial impacts would be even larger after taking into account the effects on individually held 401(k) accounts, IRAs, and brokerage accounts. This analysis considered only public pensions, accounting for approximately 12.5% of the total $48.1 trillion in U.S. retirement assets in 2025.[15]

[15] Quarterly retirement market data, Q3 2025, ICI; https://www.ici.org/statistical-report/ret_25_q3

About the Author

Nam D. Pham, Managing Director, is an experienced economist who develops results-driven analyses to address his clients' most challenging policy and legal issues. Prior to founding ndp | analytics in 2000, Dr. Pham spent nearly fifteen years in various economic research positions including as a Vice President at Scudder Kemper Investments, where he was responsible for research, asset allocation, and currency hedging for global and international bond funds, Chief Economist of the Asia Region at Standard & Poor's DRI, an economist at the World Bank, and an economic consultant to both the Department of Commerce and the Federal Trade Commission. His work on innovation and international trade has been included in the Economic Report of the President. Dr. Pham is an adjunct professor at George Washington University. He holds a Ph.D. in economics from George Washington University, a M.A. in economics from Georgetown University, and a B.A. from the University of Maryland.

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