BofA SECURITIES

US Biopharmaceuticals

4Q23 Earnings Quotes – Week 5

Earnings Review

With most of 4Q23 earnings season behind us, we have compiled what we'd highlight as the most important thematic quotes from earnings calls across the Biopharma space. Areas that particularly stood out which have industry relevance, include **1)** 2024 outlook, **2)** new launches / pipeline development, and 3) M&A / Business Development.

2024+ outlook

MRNA on 2024+ outlook: *"We expect net sales for 2024 of approximately $4 billion, which we think will be a low point as we expect to return to growth in 2025. Sales in the first half of the year are expected to be approximately $100 million. We expect cost of sales of approximately 35%, For R&D, we expect full year expenses to be approximately $4.5 billion and for SG&A, we expect full year expenses to be approximately $1.3 billion.*

BMRN on 2024+ outlook: *"And for non-GAAP diluted earnings per share, we expect between $2.60 and $2.80 per share for the full year 2024, which at the midpoint represents 30% growth over last year... With respect to non-GAAP operating margin for the full year 2024, we are guiding to between 23% and 24%, which represents 4 percentage points of expansion versus the 2023 non-GAAP operating margin of 19.4%. This is inclusive of our G&A reclassifications."*

New launches

MRNA on new launches: *"I'll start with our respiratory franchise, where we are targeting the first approval for our RSV vaccine beginning in the first half of 2024, with commercial launches shortly thereafter. With our flu vaccine, we're in discussions with regulators about potential submissions for approvals, and we expect to begin filing this year. And we expect Phase 3 data for our flu and COVID combination vaccine this year. In latent vaccines, we are looking forward to potential efficacy data from our CMV Phase 3 study. In oncology, we expect continued progress enrolling our two Phase 3 studies in INT for adjuvant melanoma and non-small cell lung cancer, we also expect to expand into additional tumor types this year."*

BMRN on new launches: *". As demonstrated by the VOXZOGO financial results today, 178% growth year-over-year, with close to 300 new patients added in Q4, the launch in achondroplasia is on a path to blockbuster status. We were pleased that 70% of new US prescriptions in Q4 were for children under the age of five following FDA's age expansion approval last October. The US and EU approvals last quarter, allowing treatment from infancy, sets VOXZOGO up to be a major multi-year growth driver."*

M&A / Capital Allocation

MRNA on M&A: *"Our Moderna operating principles are largely centered around a very disciplined approach to capital allocation. Our Number 1 priority has been and will continue to be reinvesting in the business. Our teams are laser-focused on operational improvements for both expense management and working capital."*

See pages 2-14 of this note for additional key thematic quotes from 4Q23 calls

23 February 2024

Equity
United States
Biopharmaceuticals

Geoff Meacham
Research Analyst
BofAS
+1 646 855 1004
geoff.meacham@bofa.com

Charlie Yang
Research Analyst
BofAS
+1 646 855 5732
charlie.yang@bofa.com

Susan Chor
Research Analyst
BofAS
+1 646 855 0102
susan.chor@bofa.com

Alexandria Hammond
Research Analyst
BofAS
+1 646 855 1654
alexandria.hammond@bofa.com

John Joy
Research Analyst
BofAS
+1 646 855 1136
john.joy@bofa.com

Abbreviations:
IRA: inflation reduction act
BD: business development
M&A: mergers and acquisitions
EGFR: estimated glomerular filtration rate
ESMO: European Society for Medical Oncology
FDA: Food and Drug Administration
CD19: Protein
MS: Multiple Sclerosis
PBM: Pharmacy Benefit Manager
CAR-T: Cell oncology technology
BCMA: B-cell maturation antigen

Key Quotes from 4Q23 Earnings Calls

2024+ Outlook

JNJ on 2024+ Outlook: *"As we look ahead, I have never been more excited about the future of our business. At our enterprise business review, we share that we expect our Innovative Medicine business to grow 5% to 7% from 2025 to 2030, with our industry-leading pipeline and portfolio delivering more than 10 assets that have the potential to generate over $5 billion in peak year sales by 2030. We also expect a further 15 assets to have the potential for $1 billion to $5 billion in peak year sales."*

"Turning to other items on our P&L. We expect our 2024 adjusted pre-tax operating margin to improve by approximately 50 basis points, driven primarily by a continuation of efficiency programs across the organization. We expect this to be partially offset by anticipated STELARA biosimilar entrance in Europe in the second half of this year and some lingering inflation impact in MedTech inventory that will flow through 2024's P&L. This margin improvement encompasses dilution of additional investment associated with our planned acquisition of Ambrx, which will be treated as a business combination. Now we do acknowledge that this 50 basis point improvement simply gets us back to what your models expected given the elevated Q4 2023 R&D investment for new pipeline assets. Regarding other income and expense, we anticipate income to be $1.2 billion to $1.4 billion for 2024. This is less than the 2023 amount driven by the impact of actuarial assumptions on certain employee benefit programs, such as lower discount rates."

"We are comfortable with you modeling net interest income between $450 million and $550 million, consistent with 2023 levels. Finally, we are projecting an effective tax rate for 2024 in the range of 16% to 17%, based on current tax laws and anticipated geographic income mix across our businesses. This tax rate takes into account an increase of approximately 1.5% or 150 basis points relative to the recently enacted Pillar 2 legislation."

"Given all these factors, we expect adjusted operational earnings per share to grow 7.4% at the midpoint for a range of $10.55 to $10.75. Based on the euro spot rate of 1.09 from last week, we do not estimate any currency impact on earnings per share. I'll now provide some qualitative considerations on quarterly phasing for your models. We expect Innovative Medicine sales growth to be slightly stronger in the first half of the year compared to the second half given the anticipated entry of STELARA biosimilars in Europe towards the middle of the year. This headwind will be partially offset by continued uptake from our recently launched products. We project MedTech operational sales growth to be relatively consistent throughout the year, expecting procedures in 2024 to remain above pre-COVID levels. The first half of the year will continue to have modest impact from Russia sanctions as our licenses are approved. We anticipate China VBP pricing for surgical IOLs and orthopedic sports to begin in 2024, with impacts from 2023 VBP in electrophysiology, endocutters, energy, spine and trauma to begin to anniversary throughout 2024."

PFE on 2024+ Outlook: *"Upon achieving our de-levering goals, we anticipate returning to a more balanced capital allocation strategy, inclusive of share repurchases. Now given that we issued our full year 2024 revenue and adjusted diluted earnings per share guidance on December 13th, let me just hit a few of the highlights. We expect total Company full year 2024 revenues to be in the range of $58.5 billion to $61.5 billion, which reflects our expectation of strong contributions across our product portfolio. Importantly, excluding Comirnaty and Paxlovid, we anticipate operational revenue growth of 8% to 10%. We remain confident on delivering at least $4 billion of net savings from our cost-realignment program by the end of this year. We believe right-sizing the cost base will put us on a strong footing towards margin expansion and increased operational efficiency moving forward. With it, we expect adjusted diluted earnings per share to be in the range of $2.05 to $2.25 a share for the full year of 2024. And as a reminder, this range is inclusive of an anticipated $0.40 of earnings dilution from the Seagen acquisition, and again, with the vast majority of this dilution resulting from the financing costs associated with the deal."*

"Our guidance for gross margin, although we don't provide it specifically, we give you some color around the fact that it's approximately 70%. Obviously, our focus going forward is to improve our margin rate and more importantly, improve our operating margin rate to the bottom-line. As we look here at 2024, there is a few things that have compressed our margin rate versus -- as COVID has declined year-over-year, that has served to, I'll say de-lever if you will, the P&L as COVID takes up and covers some fixed overhead. But importantly, what's happening is we are in-sourcing products that we've recently acquired. Those -- that in-sourcing requires time before we get up to peak yield and performance. So, that in the short-term dampens gross margin rate, but has a trajectory to improve gross margin rate over time. And then secondly, we have new launches that are coming online late in Q3 -- or late in the second half of 2023 and moving into '24, again those are not at peak performance yet, that will ultimately improve gross gross margin rate as we cycle into later years. And then finally, I will say that, over the last several years, we have absorbed some amount of inflation within our cost of goods sold. That is an area of opportunity for us as we think about improving performance longer-term. So, I hope that gives you some color."

"R&D came in a little favorable than our expectations previously. A part of this is the fact that we are very focused on realigning our cost base, so consistent with the program. And then secondly, there probably is some timing that's dampening R&D in the fourth quarter that will slide into 2024 and into 2025. So, there is some timing implications to that performance level. But I think importantly, back to my prepared remarks, is, our focus is on delivering net savings of $4 billion and if you look through the end of 2023, about half of that, we have achieved already. We're now focused on achieving the additional $2 billion or so as we cycle into 2024, and all eyes are on that objective."

ABBV on 2024+ Outlook: *"We anticipate updates this year from several important R&D programs including. Approvals for Skyrizi in UC, 951 in the US and potentially accelerated approval for DLBCL in third-line plus follicular lymphoma. We also anticipate regulatory submissions for, our novel short-acting toxin and potentially Teliso-V in advanced non-squamous, non-small cell lung cancer. And third, we are focused on closing and integrating ImmunoGen answerable, these two exciting opportunities represent substantial sources of revenue growth well into the next decade. We remain on-track with the anticipated closing of both deals in the middle of the year. Today, we are also reaffirming our long-term sales outlook, which includes a return to robust revenue growth in 2025 with a high-single-digit CAGR through the end-of-the decade. Included in this outlook is an updated forecast for Skyrizi and Rinvoq. Based on the impressive growth of both therapies, which we expect will collectively generate approximately $16 billion of revenue in 2024, we now anticipate Skyrizi and Rinvoq will collectively exceed more than $27 billion in sales by 2027, with robust growth continuing into the next decade. This updated forecast reflects an increase of more than $6 billion in revenue, compared to our prior 2027 guidance. We expect global sales for Skyrizi, to reach more than $17 billion in 2027, reflecting continued share capture in psoriasis, where we are the clear market-leader, as well as strong uptake in IBD. And we expect Rinvoq to achieve more than $10 billion of global sales in 2027, reflecting continued market growth and share momentum across each of Rinvoq approved indications including four in rheumatology, two in IBD and eight atopic dermatitis. This forecast comprehends modest contributions from several new disease areas for Rinvoq, which we anticipate will be launching in the second-half of the decade."*

BMY on 2024+ Outlook: *"We expect 2024 revenues to increase in a low single-digit range, reflecting our confidence in the growing momentum of our growth portfolio. Excluding Foreign Exchange, we expect revenues to increase in the low single-digit as well. Driving our momentum this year will be increasing the sales in our growth portfolio from products like Opdivo and our recently launched products. As we said previously, we expect a more modest pace of growth than last year for Opdivo, with the potential for acceleration in the back half of the year from new indications. And while our legacy portfolio includes assets that are maturing, we expect strong growth from Eliquis in the US this year."*

MRK on 2024+ Outlook: *"So, as you all know, our company has made great progress in expanding operating margin over a number of years. As we look to 2024, we expect operating margin to improve. And that's really driven by the strength of the topline and mix of revenue by the roll-off of royalties that we've noted in KEYTRUDA and GARDASIL being disciplined in our expenses, while we do invest fully behind our expansive pipeline. As we go beyond 2024, we still point to an operating margin of greater than 40% in 2025, but our focus as a company and as the team is to really ensure that we are fueling the pipeline supporting the portfolio of products that we're launching to drive growth into the long-term."*

"We expect another year of strong growth, driven by key marketed products and we'll begin to benefit from the anticipated launches of impactful new products [ph], such as Sotatercept and V116, we project revenue to be between $62.7 billion and $64.2 billion, representing growth of 4% to 7%. This growth includes a negative impact from foreign-exchange of approximately 2% using mid January rates. The headwind is primarily due to the devaluation of the Argentine peso, which we expect will largely be offset by inflation related price increases consistent with market practice. Our gross margin assumption is approximately 80.5%, which includes the benefit from reduced royalties paid on KEYTRUDA and GARDASIL. Operating expenses are assumed to be between $25.1 billion and $26.1 billion, which includes an approximate $650 million one time charge related to the announced acquisition of Harpoon Therapeutics. As a reminder, our guidance does not assume additional significant potential business development transactions. Other expense is expected to be approximately $200 million. We assume a full-year tax-rate between 14.5% and 15.5%. We assume approximately 2.54 billion shares outstanding. Taken together, we expect EPS of $8.44 to $8.59. This range includes an approximate $0.26 per share charge related to the planned acquisition of Harpoon Therapeutics, which is not tax-deductible and the negative impact from foreign-exchange of approximately $0.25 using mid-January rates, including the impact from Argentina."

VRTX on 2024 outlook *"Now switching to guidance. For 2024, we expect total product revenue in a range of 10.55% to $10.75 billion, representing revenue growth of 8% at the midpoint at current exchange rates. Included in this outlook is our expectation for continued growth in CF as we continue to reach more patients including younger ones in core markets and select other countries. Guidance also includes contribution from the commercial launch of CASGEVY in approved indications and geographies. We continue to expect a foundational year for CASGEVY in 2024, as we ramp up patient initiations and build toward a multi-billion dollar market opportunity overtime.*

We are providing total product revenue guidance rather than specifics by disease area or product given the inherent uncertainty of new launches as well as the significant disparity in size of our established CF business relative to other revenues. As a reminder, on the accounting for CASGEVY and the CRISPR profit share arrangement, Vertex will book 100% of revenues for CASGEVY. The profit share with CRISPR calculated after product and commercial costs will be recorded in cost of goods sold. Any ongoing research and development costs will be recorded in operating expenses net of CRISPR's share. For total Vertex operating expenses, we project $4.3 billion to $4.4 billion in full year 2024 combined non-GAAP SG&A, R&D, and acquired IPR&D. This operating expense range includes approximately $125 million in currently anticipated IPR&D charges. We continue to invest a majority of our operating expenses into R&D given the momentum in our multiple mid and late-stage clinical development programs.

Note, that the costs for multiple Phase 3 studies have been a significant driver of our growth in our total operating expenses in recent years. Given that a number of Phase 3 studies were completed as we entered 2024, we were able to fund new additional Phase 3 studies without the same rate of growth in operating expenses. While we have substantially completed our commercial investments for CASGEVY, we are also funding the expansion of our commercial capabilities in anticipation of other multi-billion dollar opportunities represented by our programs with near-term launch potential, while continuing to leverage

an attractive business model afforded by our focus in specialty markets. With a more normalized impact from U.S. R&D tax credits in 2024, our full year 2024 non-GAAP effective tax rate is expected to be in the range of 20% to 21%."

LLY on 2024 outlook: *"To summarize our initial 2024 financial guidance. Starting at the topline, revenue is expected to be between $40.4 billion and $41.6 billion. Using the midpoint of the 2024 range, this represents roughly 20% growth or 29% growth for our core business, which excludes the impact of the divestitures that took place in 2023.*

In terms of phasing of our revenue growth throughout 2024, while we don't provide quarterly guidance, we expect revenue growth to accelerate in the second half of the year, consistent with the increased availability of incretin doses.

In terms of pricing for a core business which excludes divestitures, we expect a high-single-digit percent price decline in 2024. The lingering base period impact of the Mounjaro non-covered co-pay card dynamics will dampen these price declines in the first half of 2024, with more significant price declines expected in the second half of the year.

During this year, we're taking a streamlined approach to our guidance line items relating to expenses. Rather than providing three separate guidance line items for gross margin, research and development costs, and marketing and sales administrative costs, we are presenting a single new ratio representing our margin after plant costs calculated by subtracting R&D costs and marketing, selling, and administrative costs from gross margin; and dividing that figure by revenue. We express this ratio as a percentage, and for 2024, we expect it to be in the range of 31% to 33% on a non-GAAP basis.

While we are not providing a specific guidance number for gross margin as a percent of sales, our expectations remain consistent that we will maintain gross margin of approximately 80% on a non-GAAP basis, as productivity gains and volumes are offset by pricing pressures and the cost of new manufacturing facilities.

As for our expense growth across key categories, we expect marketing, selling, and administrative expenses to again grow in 2024, though at a slower pace than revenues, with growth driven by marketing investments in our recently launched and upcoming launch products.

We also expect R&D expenses in 2024 to increase driven by growing investments across all phases of our pipeline as we invest for the future with the majority of dollar growth driven by ongoing and new late-phase opportunities. We expect R&D expense to increase at a higher rate than marketing, selling and administrative expenses.

Other income and expenses is expected to be between $400 million and $500 million of expense, primarily driven by higher interest expense.

Turning to taxes, we expect our 2024 non-GAAP effective tax rate to be approximately 14%. Note that this rate does not assume deferral or repeal of the provision in the 2017 Tax Act requiring capitalization and amortization of research and development expenses for tax purposes. Should such a change take effect, our effective tax rate for 2024 would be moderately higher.

Earnings per share is expected to be in the range of $12.20 to $12.70 on a non-GAAP basis. Consistent with our prior practice, we're not including any potential or pending acquired IPR&D and development milestone charges in our 2024 guidance, and we will provide updates each quarter on the impact of IPR&D on earnings per share if acquired IPR&D and development milestone charges are incurred. For guidance modeling purposes, we're currently estimating diluted weighted average share outstanding for 2024 to be approximately $903 million.

We entered 2024 with strong momentum and a remarkable opportunity to help millions more patients with our medicines. For our investors, 2024 should be another exciting year driven by expected revenue growth in our core business near an approaching 30% and

continued investments to drive future growth. Our outlook for top-tier revenue growth and operating margin expansion remains on track."

AMGN on 2024 outlook: "*For 2024, we're expecting revenue of $32.4 billion to $33.8 billion, and non-GAAP earnings per share of $18.90 to $20.30. As we continue to integrate Horizon, we expect the acquisition to be accretive to non-GAAP EPS in 2024, and we're on track to meet the synergies target previously communicated of at least $500 million in pre-tax costs by year three after closing, or in 2026.*

Our revenue range reflects our strong growth outlook, driven by numerous opportunities across our four therapeutic area pillars. We will record a full-year of legacy Horizon product sales, and we expect continued volume-driven growth in our priority products Repatha, TEZSPIRE, EVENITY, Otezla, Prolia, and BLINCYTO, consistent with industry trends in our recent history, we expect mid-single-digit price declines for our portfolio in 2024.

As a reminder, as you model the first quarter of 2024 and consistent with our historical trends, we expect first quarter product sales to be the lowest quarter as a percentage of the full year due to benefit plan changes, insurance re-verifications, and increased copay charges. So, we expect the first quarter of 2024 total revenue to grow roughly 20% year-over-year.

For the full year, we expect other revenue to be in the range of approximately $1.3 billion to $1.4 billion. And we continue to efficiently run the business through our disciplined approach to managing operating expenses. In 2024, we're making incremental R&D investments to support our promising late-stage pipeline, including our rapidly advancing oncology programs, as discussed following ESMO in October, and other programs, including MeriTide. Furthermore, the addition of Horizon has an impact on the 2024 operating margin given the timing of when synergies are realized.

As a result, we project the full year non-GAAP operating margin as a percentage of product sales to be roughly 48%. Note that we expect non-GAAP operating margin growth to accelerate in each of the quarters following the first quarter. There are primarily three reasons for this.

First, typical lower product sales in Q1, as I mentioned, above than in each of the following quarters. Second, increased spend on our commercial brands will continue, building on the investments we made in the second half of 2023, including Repatha, Otezla, and our bone portfolio of EVENITY and Prolia.

And third, Q1 2024 reflects the addition of Horizon, for which we are just at the beginning stages of realizing synergies, given the acquisition close date of October 6. So we expect non-GAAP operating margin to be roughly 43% in the first quarter. I would reiterate that we expect operating margin growth to accelerate in each of the quarters following the first quarter. We project non-GAAP cost of sales be in the range of 17% to 18% as a percentage of product sales for the 2024 year.

Taking into account the full year of Horizon-related expenses, we expect non-GAAP R&D expenses in 2024 to increase approximately 20% year-over-year, with investments also increasing to advance key pipeline assets, including AMG 193, MeriTide, rocatinlimab, and tarlatamab. We see significant potential in our innovative pipeline, and it is important that we strategically invest now to fully unlock the opportunities ahead to create long-term value for patients, staff, and shareholders. And for non-GAAP SG&A spend, we expect 2024 full-year amounts as a percentage of product sales to be between 21% and 22%.

We anticipate non-GAAP OI&E to be in the range of $2.6 billion to $2.7 billion. As mentioned on our Q3 '23 call, the '24 guidance includes the interest expense related to the $28 billion of debt raised for the Horizon acquisition. We expect a non-GAAP tax rate of 16% to 17%."

GILD on 2024 outlook: *"For 2024, we expect HIV sales to grow approximately 4%, reflecting annual treatment demand growth of 2% to 3%, Biktarvy market share gains, and continued double-digit growth in demand for HIV prevention. In terms of quarterly HIV revenue, keep in mind that the first quarter is always impacted by the reset of patient co-pays and deductibles. Additionally, we've historically seen inventory build-up in the fourth quarter that has led to notable drawdowns by wholesalers in the first quarter."*

"You're absolutely right, our product sales guidance for products excluding Veklury implies 4% to 6% growth year-over-year, again continuing the trend of strong growth that you've seen over the last two years. I'd also highlight that it implies a substantial moderation of our operating expense growth, which is an important piece of the puzzle that we spent a lot of time talking about.

To your question specifically on product growth, the growth drivers for 2024 are the same as the growth drivers last year. You continue to see strong growth in our HIV business. As you see in the quarter, you really need to focus on the full year for HIV to see the growth trend. And we saw another year of very strong growth across our HIV business for the full year in '23. We expect the same thing in '24. And you heard on the call that we were expecting at least 4% growth for the HIV business next year. And then, of course, the Cell Therapy business and Trodelvy are expected to continue to grow as well."

BIIB on 2024 outlook: "*So now I'm going to discuss our full-year 2024 guidance ranges and assumptions. We expect full-year 2024 non-GAAP diluted earnings per share of between $15 and $16, and that reflects expected EPS growth of approximately 5% at the midpoint of the range compared to 2023.*

While total revenue is expected to decline by a low to mid-single digit percentage, we expect our core pharmaceutical revenue or product revenue plus Biogen's 50% share of LEQEMBI revenue net of cost of sales and royalties to be relatively flat for 2024 as compared to 2023. This assumption is driven by the expected increase in revenue from new product launches over the course of the year, roughly offsetting the declines in our MS product revenue.

As has been the case in previous years, we expect Q1 to be seasonally weaker quarter as compared to Q4 for our MS business in the US, and that's driven by higher discounts and allowances and some channel dynamics. We also expect contract manufacturing revenue to be significantly lower throughout 2024 as compared to 2023. This is in part due to completing certain batch commitments in 2023, as part of the 2020 sale of Hillerod, which is located in Denmark. We had manufacturing operations there. And these batch commitments contributed roughly $320 million in 2023, which will not recur in 2024.

The increase in revenue from new product launches and decrease in contract manufacturing revenue, along with lower idle capacity charges, are expected to have a favorable impact on cost of sales as a percentage of revenue for 2024.

We also believe we can grow our operating income at a low double-digit percentage and operating margins by a mid-single digit percentage as compared to 2023. We expect this to be driven by improved cost of sales as a percentage of revenue as well as lower expected operating expenses, resulting from our Fit for Growth initiative.

On Fit for Growth, we continue to expect to generate approximately $1 billion in gross savings and $800 million in savings net of reinvestments by 2025. We have achieved approximately $200 million of savings in 2023 and are on track to realize another $200 million in 2024, which would put us at $400 million or half of the overall net savings by the end of this year with the remainder in 2025.

In 2024, we expect our 50% portion of SG&A spend for LEQEMBI, which, as a reminder, is not included in our Fit for Growth assumptions and the reallocation of resources for ADUHELM to roughly offset. With all of these considerations in mind, we expect our full-year 2024 combined R&D and SG&A spend to total approximately $4.3 billion.

We expect our other income and expense line to continue to be a headwind this year, given the reduction in interest income and increase in interest expense as a result of the Reata acquisition. And so in 2024, we expect an improving revenue profile, improved margins, and a return to non-GAAP EPS growth. Our number one goal remains to return to sustainable growth, and we remain committed to this goal and to creating long-term value for our shareholders."

RPRX on 2024 outlook: *"Slide 24 provides our full year 2024 financial guidance. We expect portfolio receipts to be in the range of $2.6 billion to $2.7 billion. Let me walk you through our assumptions. First, within our overall top line guidance, we expect to deliver continued attractive growth in royalty receipts. We anticipate the strength of our diversified portfolio will more than offset continued Imbruvica and Tysabri headwinds, as well as a potential launch of Promacta generics.*

Second, on a reported basis, we faced a high base of comparisons in 2023 as a result of the $525 million of Biohaven-related payment we received last year. For your modeling consideration, I remind you that the largest element, the $475 million Zavzpret milestone was received in the first quarter of 2023. As a consequence, milestones and other contractual receipts are expected to be substantially lower in 2024.

Lastly, our guidance assumes a negligible FX impact. Importantly, and consistent with our standard practice, this guidance is based on our portfolio as of today and does not take into account the benefit any future royalty applications.

Turning to operating expenses. We expect payments for operating and professional costs to be approximately 8% to 9% for full year receipts in 2024. Interest paid for full year 2024 is expected to be around $160 million and will follow the established quarterly pattern with de minimis amounts payable in Q2 and Q4. This does not take into account any interest received on our cash balance, which amounted to $72 million for full year 2023, and $8 million in the fourth quarter.

Slide 25 provides more detail on the expected evolution of royalty receipts versus milestones and other contractual receipts in 2024. For royalty receipts, we expect growth of around 5% to 9% while milestones and other contractual receipts are expected to decline from around $600 million in 2023 to approximately $30 million in 2024. The key message here is the continued, attractive underlying growth of our royalty portfolio, which we expect to deliver in 2024."

"Slide 25 provides more detail on the expected evolution of royalty receipts versus milestones and other contractual receipts in 2024. For royalty receipts, we expect growth of around 5% to 9% while milestones and other contractual receipts are expected to decline from around $600 million in 2023 to approximately $30 million in 2024. The key message here is the continued, attractive underlying growth of our royalty portfolio, which we expect to deliver in 2024."

MRNA on 2024 outlook: *"Now, let's turn to our 2024 financial framework on Slide 13, which is mostly in line with what I shared on our Q3 call. We expect net sales for 2024 of approximately $4 billion, which we think will be a low point as we expect to return to growth in 2025. Sales in the first half of the year are expected to be approximately $100 million, reflecting the strong seasonality of respiratory vaccines. We expect cost of sales of approximately 35% of product sales, in line with our cost of sales framework which we introduced in our Q3 earnings call last year. For R&D, we expect full year expenses to be approximately $4.5 billion, down from $4.8 billion in 2023, and for SG&A, we expect full year expenses to be approximately $1.3 billion, down from $1.5 billion in 2023. We also expect taxes to be negligible in 2024."*

New launches / pipeline development

JNJ on new launches: *"In 2024, we expect data readouts for many of these assets, including Phase III trials for TREMFYA in IBD, ERLEADA in early stage prostate cancer, our targeted oral peptide JNJ-2113 in psoriasis, nipocalimab in myasthenia gravis, as well as aticaprant and seltorexant in major depressive disorder. We also expect Phase II readouts for our combination therapy guselkumab and golimumab, JNJ-4804, in psoriatic arthritis, nipocalimab in Sjogren's Disease, and TAR-200 in non-muscle invasive bladder cancer. In MedTech, we share that we expect to grow at the upper range of our markets, which are anticipated to grow by 5% to 7% between 2022 and 2027, and that by 2027, we expect one-third of our revenue to be generated by new products. In 2024, we'll see strong progress towards these goals."*

PFE on new launches: *"Completing the acquisition of Seagen doubled our oncology research and resources overnight, and meaningfully extended the reach and medical impact of our US commercial and medical footprint, with a range of portfolio expansion opportunities boosted by Seagen's broad and deep pipeline. Seagen's in-line medicines are expected to immediately enhance Pfizer's top-line growth, and our combined portfolio provides the opportunity to lead genitourinary cancers, and be a leader in breast cancer, and deliver at least eight potential blockbuster products by 2030.. On the commercial side, the PADCEV launch in locally advanced metastatic bladder cancer in combination with pembrolizumab and XTANDI launch in nonmetastic castration-sensitive prostate cancer. We are excited by the strength of the PADCEV EV-302 data and recent FDA approval, as it represents an opportunity to broaden the reach of this potentially practice-changing, platinum-free regimen to even more patients in the frontline metastatic urothelial cancer setting. We are also looking forward to Phase 3 Data readouts from Vepdegestrant in second line HR+ metastatic breast cancer and Braftovi in first line BRAF colorectal cancer. We also plan to advance our late-stage pipeline with Phase 3 Starts of CDK4 in post-CDK4/6 metastatic breast cancer and B6A in non-small cell lung cancer."*

ABBV on new launches: "*These are very impressive results considering all patients who were inadequate responders to anti-TNF therapy. And 70% of the patients were Hurley Stage III, which is the most advanced-stage of the disease. Based on these results, we plan to begin a Phase three program in HF later this year. We also plan to evaluate Lutikizumab in ulcerative colitis and Crohn's given the role that IL-1 likely plays in these diseases. Patients with UC who have an IL one beta signature have shown resistance to anti-TNF and other biologics providing strong rationale for a potential biomarker approach. Additionally, we believe Lutikizumab has the potential to be used in combination to provide transformational levels of efficacy in IBD. We plan to evaluate combo approaches with Lutikizumab and Skyrizi as well as with other pipeline assets in Crohn's. Our Phase-II studies in IBD are expected to begin later this year. Our regulatory applications are under review for Skyrizi in ulcerative colitis. With approval decisions expected in the US and Europe later this year. One Skyrizi is approved in UC, along with Rinvoq we will have two assets with different mechanisms of action in IBD both offering very-high levels of efficacy. AbbVie will be very well-positioned with an industry-leading suite of treatment options for patients suffering from moderate-to-severe ulcerative colitis and Crohn's disease***."***

"We remain on-track to begin a Phase-III monotherapy study in third-line multiple myeloma. This year, and we plan to begin combination trials in earlier lines of therapy. In 2025. In the area of solid tumors, we recently-announced positive topline results from the Teliso-V Phase-II Luminosity study in previously treated non-small cell lung cancer Teliso-V demonstrated strong clinical benefits across key endpoints including overall response rate, duration of response and overall survival with a tolerable safety profile. We believe these results have the potential to support accelerated approval. And we plan to discuss the data with regulators in the coming months. Pending alignment with the FDA our submission is planned for the second-half of this year. We're also making good progress with our next-generation c-Met ADC ABBV-400 which utilizes the same c-Met blocking antibody has Teliso-V but has a proprietary Topo one warhead to afford, deeper and more durable responses with an improved therapeutic index."

REGN on new launches: "*In mid-2024, we plan to start our first clinical trial to evaluate the combination of our muscle preservation antibodies in combination with semaglutide. Also in 2024, we are anticipating proof-of-concept data for Factor XI antibodies in the setting of prevention of venous thromboembolism after knee replacement surgery. Based on preclinical and healthy volunteer data, our anybody approach demonstrated more complete Factor XI blockade compared to competing approaches and development for coagulation disorders and the program is on a rapid path to a registrational trial starting late this year or early next year."*

MRK on new launches: *"In cardiometabolic, we're very excited by the anticipated FDA action on our application for Sotatercept in the United States, which we believe has the potential to transform the treatment journey for many patients suffering from pulmonary arterial hypertension. Our commercial and manufacturing teams are fully prepared with a strong uptake, we expect. Sotatercept is an important component of our growing cardiometabolic pipeline, which we believe has significant long-term potential. In vaccines, the FDA accepted for priority review our filing for V116. If approved, V116 would be the first vaccine specifically designed to address the majority of invasive pneumococcal disease and adults, ages 65 and older. Based on its compelling profile, V116 has the potential to become an important new preventive option for adults, and we believe it can achieve majority market-share in this setting. We look forward to a potential approval in June. And in oncology, we continue to expand into additional tumor types and earlier stages of certain cancers, as well as progress our increasingly broad pipeline of novel candidates."*

"So when we think about the tissue targeting, we think of ADCs. And the answer is I think the ADC field will continue to develop and I think there'll be other payload other linkers, but also the specificity by which you do the tissue targeting in relationship to the antibody may change. There is also clearly evidence of potential movements into peptide drug conjugates that we're interested in, as well as the possibility that the payload is no longer chemotherapy based, but other sort of compound based. So we're interested in that. In tissue targeting, more broadly, we are interested in -- so we view that as -- okay, that's how we're going to move sort of toxic cell chemotherapy agents into tissue targeting sort of scheme, making chemotherapy precision medicine. But we also are very interested in the IO space in relationship to tissue targeting and that is our foray and that has really helped our proposed acquisition with Harpoon that has a very interesting asset in relationship to tissue targeting and engagers."

VRTX on new launches:

"*Now switching to guidance. For 2024, we expect total product revenue in a range of 10.55% to $10.75 billion, representing revenue growth of 8% at the midpoint at current exchange rates. Included in this outlook is our expectation for continued growth in CF as we continue to reach more patients including younger ones in core markets and select other countries. Guidance also includes contribution from the commercial launch of CASGEVY in approved indications and geographies. We continue to expect a foundational year for CASGEVY in 2024, as we ramp up patient initiations and build toward a multi-billion dollar market opportunity overtime."*

"We're also working toward multiple additional near term commercial opportunities driving toward our five launches in five years goal. The recent approvals for CASGEVY in both sickle cell disease and beta-thalassemia deliver the first two. Now with the positive Phase 3 results from VX-548 in acute pain and for the vanzacaftor triple therapy in CF, these are potentially the next two, and with a strong clinical-stage pipeline with first-in-class or best-in-class assets, we are well on our way to our goal of five launches by 2028. In addition to the rapidly advancing clinical-stage pipeline, the next wave of innovation also continues to make progress, and as we announced last month, we are pleased to be advancing two new disease areas into the clinic."

"So in answer to your first question on vanzacaftor, the answer is both. I think vanzacaftor is going to be an attractive treatment option, both for patients who currently being treated, who might want superior control of their CFTR function, because both patients and physicians know that CFTR function and dysfunction is the underlying cause of CF, and so if you can further improved CFTR function, you're going get better clinical outcomes down the line, so I think we're going to see interest from those who are currently being treated, but I also think we're going to see a lot of interest from patients who previously discontinued one of our CFTR modulators given the profile that we've demonstrated today. And then on CASGEVY, a couple of comments really. The first one I would make is, we're very excited about the demo and the opportunity to work with CMS for those states who are interested in working with CMS and are interested in outcomes-based agreements."

"I think we've described the patient journey for CASGEVY, it has kind of these multiple phases from patients being evaluated by their physician and deciding with their physician that this is a journey that they want to go on. You then have to go through the cell process and then the cells are infused, each of those steps can take a number of months, and as you know, we've said that we'll be recognizing revenue at the point of infusion. So in contrast to our cystic fibrosis launches, which have really seen incredibly rapid uptake, we have said that we are expecting this launch to be more like a traditional biopharma launch, but we are expecting this -- and we have said, we are expecting this to be a foundational year for us as we build momentum around CASGEVY. Having said that, in terms of the destination, we continue to believe the destination for CASGEVY is going to be used in thousands of patients and represents a multi-billion dollar opportunity. Thank you."

LLY on new launches: *"As we think about Mounjaro launches outside the U.S., we have already launched in a number of select markets. We have a foundation to be competitive in many of our markets, and we anticipate continued launches. We've just launched in vial format in select markets outside of the U.S., namely in Australia, Canada and Germany and Poland. And we just received KwikPen approval in the U.K., and so we're anticipating launch there.*

As we get additional regulatory approvals for our multi-use KwikPen and we monitor our ramp-up in capacity for supply, we'll continue to launch in other markets throughout the year. So, we anticipate further growth, anticipated for launches of Mounjaro outside of the U.S. and continue with that throughout the year as well as into 2025."

"I'll start with our progress against diabetes, obesity, and complications thereof. Today, we announced positive results from SYNERGY-NASH, a Phase 2 study of tirzepatide in adults with biopsy-proven metabolic dysfunction associated steatohepatitis, also known as NASH.

As shown on Slide 17, the study met its primary endpoint, with up to 74% of participants achieving an absence of MASH with no worsening of fibrosis at 52 weeks compared to less than 13% of participants reaching this endpoint on placebo. We are equally encouraged by results seen in the secondary endpoint evaluating improvement in fibrosis.

While the study was not designed to be statistically powered to evaluate improvement in fibrosis, the study results showed a clinically meaningful treatment effect across all doses on the proportion of participants achieving a decrease of at least one fibrosis stage with no worsening of MASH to placebo.

The adverse events were consistent with those observed in other clinical trials studying tirzepatide in people living with obesity or type 2 diabetes. The full SYNERGY-NASH results will be presented at a Medical Congress later this year."

AMGN on new launches: "*In general medicine, as previously disclosed, top-line 52-week data from the 592-patient MeriTide Phase 2 study is expected by late 2024. Leveraging the durability of weight loss observed in Phase 1 and rapid enrollment enjoyed in Phase 2, we recently added a Part 2 to this study, which explores durable weight loss beyond 52 weeks.*

Our planning for a comprehensive Phase 3 program across multiple indications remains on track. Lastly, you may have seen that yesterday Nature Metabolism published a manuscript from Amgen R&D that provides the integration of MeriTide preclinical and Phase 1 data. Beyond MeriTide, our obesity strategy encompasses several assets with AMG 786 in Phase 1 and additional preclinical assets advancing. Our approach is tailored to meet the dynamic needs of obesity treatment, demonstrating a longitudinal commitment to innovation and patient care in this field.

The Phase 3 outcome study of Olpasiran our potentially best-in-class Lp(a) targeting small interfering RNA molecule in atherosclerotic cardiovascular disease has enrolled more than 7,000 patients globally. This rapid enrollment accomplished in just one year across 34 countries and over 700 sites underscores the medical community's strong interest in and the potential impact of Olpasiran.

We've deliberately expanded our initial enrollment target from 6,000 to over 7,000 patients to ensure comprehensive demographic representation and to satisfy regional regulatory requirement. We are on track to complete enrollment in the first half of 2024. In oncology, we're focused on approaching high conviction targets with differentiated therapies for large effect size.

We're pleased to announce that the FDA granted priority review for BLINCYTO, an early-stage, CD19-positive B-ALL, with a PDUFA date of June 21, 2024. The ongoing Phase 3 Golden Gate study is enrolling patients to evaluate the effectiveness of alternating BLINCYTO with low-intensity chemotherapy, here in older adults diagnosed with Philadelphia chromosome negative B-ALL."

BIIB on new launches: *"I mean, to be clear, we're adding both more Biogen as well as more Eisai. A year ago, the CEO of Eisai and I talked about the launch of LEQEMBI, and for the US, just discussed the complexity of the launch, and we've been through all that, and I won't necessarily bore everybody again with that complexity, but we just felt that we wanted to really make sure we understood the go-to-market model. In addition to these neurology account specialists, you've got MSLs, you've got some patient care navigators, you've got some people looking after KMEs in the region, and there's probably -- for every NAS, there's another two or three people who are actually out there in the field.*

And there's an awful lot of coordination that is needed. And even the role of the NAS is quite complex because you've got to go in there, you've got to work with the office around helping them to understand the safety. You have to help them understand what the care pathway is. You have to help them to understand the reimbursement, not just for LEQEMBI, but there is the reimbursement for the PET scans, the MRIs, and for the care. And then finally, there's what people in the field are -- have as a principal objective, why LEQEMBI?

So we wanted to make sure we understood all of that. And to be honest, whenever you do these copromotions, they require an awful lot of coordination between the companies. And we just felt that it would be simpler if one company went out at the start. We were sure that we knew exactly how the role of the NAS was going to work in relation to the other accompanying roles that are out there in the field. And we also needed to get a certain number of core IDNs ready and signed up because there's not a lot of point in increasing the number of people out in the field unless you've got enough sites that are activated and ready.

So now we're more than six months into the launch. I think we feel very comfortable about how the role of the NAS works. We understand how long it takes between going to visit a neurologist or an IDN and how long it's going to take for them to be activated, because, as I say, there's -- you can put an awful lot of resource out there, but if you're not able to pull the drug through, it's not a very efficient process.

So that's just where we are. We're confident in that model. Obviously, it is -- we need to now reach out to more sites. So we're looking at this from both a geographic expansion, but also, I think, even within certain geographies, perhaps reducing the territory side, because when these NASs go in, they spend quite a long time with the specialists. So it was always the agreement between the two CEOs that when we scale up that Biogen would come in, but we both -- our objective is to make the joint venture as efficient as possible. And so we just felt that the efficiency at the start would be maximized if we just had one company on the field.

Now, we've obviously learned from that, and that's what also gives us the confidence to put two companies out into the field immediately in Japan, for example, because while there are differences in the market, a number of the dynamics would be the same pretty much in most markets. So it is an increase. Eisai is increasing their resource, and Biogen will be out there as well. And that could still evolve over time. We're going to be in this business together for many years to come."

Moderna on new launches: *"While we're proud of the progress in 2023, we have much more ahead in 2024. Let me take you through some of the late-stage milestones we anticipate for this year. I'll start with our respiratory franchise, where we are targeting the first approval for our RSV vaccine beginning in the first half of 2024, with commercial launches shortly thereafter. With our flu vaccine, we're in discussions with regulators about potential submissions for approvals, and we expect to begin filing this year. Phase 3 data from our Next-Gen COVID vaccine is expected in the first half of 2024, which will inform the next steps. And we expect Phase 3 data for our flu and COVID combination vaccine this year. In latent vaccines, we are looking forward to potential efficacy data from our CMV Phase 3 study. In oncology, we expect continued progress enrolling our two Phase 3 studies in INT for adjuvant melanoma and non-small cell lung cancer, we also expect to expand into additional tumor types this year. And finally in rare diseases, we expect to move into registrational studies for both PA and MMA in 2024. It will be a very busy year and we look forward to sharing progress with you as the year progresses."*

M&A / Capital Allocation/ Strategy

JNJ on BD: *"M&A and external innovation has been the core of our pharma portfolio growth and transformation. As I said initially, we are agnostic to sector. In the case of pharma, our preferred mode has been trying to go to assets that were around proof-of-concept. So generally speaking, from a size perspective, it's been about deals that have been either of a smaller size or have been different modalities like licenses or partnerships. Just last year, we completed overall at Johnson & Johnson more than 50 deals. The thing is that the headlines are only made by the ones that are M&A. So we've done multiple deals in our pharmaceutical side in order to be able to enhance our existing portfolio, and our bias is to go for transactions that are going to enable us to create more value by leveraging our clinical development strength, our manufacturing capabilities and our commercial reach. So hence, why the majority of the deals that you see in our pharmaceutical side are at an earlier stage."*

"Are we looking broader than that? Yes, we do, but mainly, we find more opportunities to create value at an earlier stage. For example, this year we did a number of deals that went less publicized. We did, as I commented before, a deal with CBMG, now called AbelZeta, in CAR-T with CD19 and CD20, which we believe could be best-in-class CAR-Ts in this area that could launch in this decade. Or at the end of the year, we also did another deal in antibody drug conjugates with a Korean company called LegoChem, which was underreported. We continue to work in identifying deals in our pharmaceutical space that enables us to be able to put all our capabilities to work in the clinical development side, in manufacturing and in commercial, and that's been the source of very significant value creation in products that all of you know, like DARZALEX or CARVYKTI, that come from that type of approach of going earlier on into the development process."

PFE on BD: *"And then, once we bring our de-levers to the levels that we are aspiring, we will start also moving into share buybacks, and of course, M&A, which means that for '24, we will see everything in existence, because we never say never to business development opportunities could come. But our strategy, it is that you will not see anything major in business development in terms of dollars."*

MRK on BD: *Now turning to capital allocation, where our strategy remains unchanged. We will prioritize investments in our business to drive near and long-term growth. We are excited by the significant progress our team has made to advance and augment our innovative pipeline in 2023. In 2024, we will increase this investment, including the initiation of more late-stage clinical trials across multiple novel candidates, each of which has significant potential to address important unmet medical needs. We remain committed to our dividend and plan to increase it over-time. Business development remains a high-priority. We maintain ample capacity, given our strong investment-grade credit rating and cash-flow, to pursue additional, science-driven, value enhancing transactions going-forward. We will continue to execute a modest level of share repurchases.*

BMY on BD: *"As we've discussed previously, as we think about capital allocation, business development continues to be a top priority for us. Obviously, we've just executed a number of deals towards the end of last year, and we've got to stay focused on executing those deals. Having said that, we certainly are going to continue to be interested in bringing innovation into the company that makes strategic and financial sense to do. So I would characterize those a bit more as bolt-on opportunities at this point. We're also, of course, continuing to look at partnerships and licensing deals as well. But that's how I would characterize it."*

REGN on BD: *"And with regards to business development, I mean, just because we can, it doesn't mean we're going to force something, it has to be right, it has to be a franchise, has to be modality, you've heard George mentioned that it has to be kind of incremental to what we currently have in the clinic here with regards to RGC and the targets we develop and all of that."*

VRTX on BD: "*Our priorities for cash deployment remain unchanged as we continue to prioritize investment in innovation including external innovation via business development. During 2023, we completed 10 transactions and recognized over $500 million of AIPR&D. We also deployed over $400 million to repurchase 1.3 million shares over the course of 2023. "*

LLY on BD: *"On Slide 13, we provide an update on capital allocation. Looking forward to 2024 and beyond, we have confidence in our existing commercial portfolio bolstered by the recent launches of Mounjaro, Jaypirca, Omvoh, and Zepbound, and the potential launches of donanemab and lebrikizumab, all of which we expect to serve as drivers for continued growth through the balance of the decade.*

On Slide 14, you'll see a summary of our outlook outlining our capital deployment decisions in relation to achievement of our strategic deliverables. We will invest in our current portfolio and in the future innovation through R&D, business development, and a comprehensive manufacturing expansion agenda designed to drive revenue growth and speed life-changing medicines to patients. We will continue to return capital to our shareholders through dividend increases in line with earnings growth over time and share repurchases with excess capital."

AMGN on BD: *"In summary, we continue to execute on our multiple capital allocation priorities. First, we continue to prioritize investments in both internal and external innovation. Our increased spending in non-GAAP R&D of 8% in '23 over '22, coupled with the acquisition of Horizon Therapeutics, continues to broaden and strengthen our balanced portfolio across therapeutic areas. With our strong late-stage innovative pipeline moving forward through development, we expect our non-GAAP R&D to continue to increase in 2024.*

Second, we continue investing in our business for long-term growth, including our state-of-the-art manufacturing facilities in Ohio and North Carolina. Amgen, Ohio, our new advanced assembly and final product packaging plant, has just received licensure from the FDA for commercial production in January, roughly two years after we broke ground.

And our innovative drug substance plant under construction in North Carolina is expected to be operational by 2026. In addition, we've positioned the organization to accelerate investments in innovation, including leveraging the power of generative artificial intelligence.

And third, we return capital to shareholders through growing dividends, including $2.13 per share in the quarter. This represented a 10% increase over that paid in each of 2022's four quarters."

GILD on BD: "*This is Dan. Maybe I'll start and then ask others to add, but I appreciate the question. I think just to reinforce our M&A strategy, I mean, nothing has changed from a business development perspective, and particularly that's against the context of the background of nearly doubling our clinical trials underway over the past four years, multiple late-stage results. As you know, we're expecting more than 20 results still this year, and against the backdrop of no significant patent expirations in our business until early parts of the next decade.*

So I think we'll continue to be opportunistic about pursuing business development in the three areas that we are focused on, which is obviously virology, oncology, and inflammation. We'll be driven by the science. We continue to articulate that, building our late research early development pipeline is probably one of our biggest focuses, and we'll continue to look at later-stage deals as they fit into our portfolio and our range.

It might also be important to note that we are back to pre-Immunomedics levels now relative to our leverage ratios, and so we're comfortable with our ability to put capital to work.

But nothing has changed, and we feel we have everything within Gilead right now to achieve our ambitions over the second half of this decade."

***RPRX on BD:** "As it relates to the second question around $4 billion, is that the new norm? We're not changing our capital deployment guidance that we gave last year at our Analyst Day meeting of $10 billion to $12 billion over five years. I think what it does highlight is there's a strong momentum. You can absolutely see it in our funnel and obviously the deals we've announced. We see it every day, that Royalty financing, and that can come in a lot of different ways, obviously synthetic and existing royalties, all kinds of different ways, is an absolutely growing trend within the sector. So, we're super excited about the opportunity set, but we're not changing our long-term guidance."*

Moderna on BD: *"In our Q3 earnings call, I provided our Moderna operating principles, which largely centered around a very disciplined approach to capital allocation. Our Number 1 priority has been and will continue to be reinvesting in the business. In addition to the investment into our pipeline, we expect capital expenditures in 2024 to be approximately $0.9 billion as we mostly complete the construction of our facilities across the globe. Our teams are laser-focused on operational improvements for both expense management and working capital. As a result, we expect to end 2024 with approximately $9 billion in cash."*

Special Disclosures

BofA Securities is acting as a financial advisor to Elanco Animal Health Inc, in connection with its sale of its aqua business to Merck Animal Health, which was announced on February 5, 2024.

BofA Securities is currently acting as Co-Advisor to Gilead Sciences Inc. in connection with its proposed acquisition of Cymabay Therapeutics, which was announced on Monday, February 12, 2024.

BofA Securities is currently acting as financial advisor to Bristol-Myers Squibb Co. in connection with its proposed acquisition of RayzeBio, Inc., which was announced on December 26, 2023.

Disclosures

Important Disclosures

BofA Global Research personnel (including the analyst(s) responsible for this report) receive compensation based upon, among other factors, the overall profitability of Bank of America Corporation, including profits derived from investment banking. The analyst(s) responsible for this report may also receive compensation based upon, among other factors, the overall profitability of the Bank's sales and trading businesses relating to the class of securities or financial instruments for which such analyst is responsible.

Other Important Disclosures

From time to time research analysts conduct site visits of covered issuers. BofA Global Research policies prohibit research analysts from accepting payment or reimbursement for travel expenses from the issuer for such visits.
Prices are indicative and for information purposes only. Except as otherwise stated in the report, for any recommendation in relation to an equity security, the price referenced is the publicly traded price of the security as of close of business on the day prior to the date of the report or, if the report is published during intraday trading, the price referenced is indicative of the traded price as of the date and time of the report and in relation to a debt security (including equity preferred and CDS), prices are indicative as of the date and time of the report and are from various sources including BofA Securities trading desks.
The date and time of completion of the production of any recommendation in this report shall be the date and time of dissemination of this report as recorded in the report timestamp.

Recipients who are not institutional investors or market professionals should seek the advice of their independent financial advisor before considering information in this report in connection with any investment decision, or for a necessary explanation of its contents.
Officers of BofAS or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments.
Refer to BofA Global Research policies relating to conflicts of interest.
"BofA Securities" includes BofA Securities, Inc. ("BofAS") and its affiliates. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor if they have questions concerning this report or concerning the appropriateness of any investment idea described herein for such investor. "BofA Securities" is a global brand for BofA Global Research.
Information relating to Non-US affiliates of BofA Securities and Distribution of Affiliate Research Reports:
BofAS and/or Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by The Financial Service Board; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers (AMF). BofA Securities Europe SA ("BofASE") with registered address at 51, rue La Boétie, 75008 Paris is registered under no 842 602 690 RCS Paris. In accordance with the provisions of French Code Monétaire et Financier (Monetary and Financial Code), BofASE is an établissement de crédit et d'investissement (credit and investment institution) that is authorised and supervised by the European Central Bank and the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers. BofASE's share capital can be found at www.bofaml.com/BofASEdisclaimer; BofA Europe (Milan): Bank of America Europe Designated Activity Company, Milan Branch, regulated by the Bank of Italy, the European Central Bank (ECB) and the Central Bank of Ireland (CBI); BofA Europe (Frankfurt): Bank of America Europe Designated Activity Company, Frankfurt Branch regulated by BaFin, the ECB and the CBI; BofA Europe (Madrid): Bank of America Europe Designated Activity Company, Sucursal en España, regulated by the Bank of Spain, the ECB and the CBI; Merrill Lynch (Australia): Merrill Lynch Equities (Australia) Limited, regulated by the Australian Securities and Investments Commission; Merrill Lynch (Hong Kong): Merrill Lynch (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSFC); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch Canada Inc, regulated by the Canadian Investment Regulatory Organization; Merrill Lynch (Mexico): Merrill Lynch Mexico, SA de CV, Casa de Bolsa, regulated by the Comisión Nacional Bancaria y de Valores; Merrill Lynch (Argentina): Merrill Lynch Argentina SA, regulated by Comisión Nacional de Valores; BofAS Japan: BofA Securities Japan Co., Ltd., regulated by the Financial Services Agency; Merrill Lynch (Seoul): Merrill Lynch International, LLC Seoul Branch, regulated by the Financial Supervisory Service; Merrill Lynch (Taiwan): Merrill Lynch Securities (Taiwan) Ltd., regulated by the Securities and Futures Bureau; BofAS India: BofA Securities India Limited, regulated by the Securities and Exchange Board of India (SEBI); Merrill Lynch (Israel): Merrill Lynch Israel Limited, regulated by Israel Securities Authority; Merrill Lynch (DIFC): Merrill Lynch International (DIFC Branch), regulated by the Dubai Financial Services Authority (DFSA); Merrill Lynch (Brazil): Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch KSA Company: Merrill Lynch Kingdom of Saudi Arabia Company, regulated by the Capital Market Authority.
This information: has been approved for publication and is distributed in the United Kingdom (UK) to professional clients and eligible counterparties (as each is defined in the rules of the FCA and the PRA) by MLI (UK), which is authorized by the PRA and regulated by the FCA and the PRA - details about the extent of our regulation by the FCA and PRA are available from us on request; has been approved for publication and is distributed in the European Economic Area (EEA) by BofASE (France), which is authorized by the ACPR and regulated by the ACPR and the AMF; has been considered and distributed in Japan by BofAS Japan, a registered securities dealer under the Financial Instruments and Exchange Act in Japan, or its permitted affiliates; is issued and distributed in Hong Kong by Merrill Lynch (Hong Kong) which is regulated by HKSFC; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); is issued and distributed in India by BofAS India; and is issued and distributed in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch (Singapore) (Company Registration No 198602883D). Merrill Lynch (Singapore) is regulated by MAS. Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distributes this information in Australia only to 'Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of Bank of America N.A., Australia Branch, neither MLEA nor any of its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA. Information prepared and issued by Merrill Lynch (DIFC) is done so in accordance with the requirements of the DFSA conduct of business rules. BofA Europe (Frankfurt) distributes this information in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securities entities, including BofA Europe and BofASE (France), may outsource/delegate the marketing and/or provision of certain research services or aspects of research services to other branches or members of the BofA Securities group. You may be contacted by a different BofA Securities entity acting for and on behalf of your service provider where permitted by applicable law. This does not change your service provider. Please refer to the Electronic Communications Disclaimers for further information.
This information has been prepared and issued by BofAS and/or one or more of its non-US affiliates. The author(s) of this information may not be licensed to carry on regulated activities in your jurisdiction and, if not licensed, do not hold themselves out as being able to do so. BofAS and/or MLPF&S is the distributor of this information in the US and accepts full responsibility for information distributed to BofAS and/or MLPF&S clients in the US by its non-US affiliates. Any US person receiving this information and wishing to effect any transaction in any security

discussed herein should do so through BofAS and/or MLPF&S and not such foreign affiliates. Hong Kong recipients of this information should contact Merrill Lynch (Asia Pacific) Limited in respect of any matters relating to dealing in securities or provision of specific advice on securities or any other matters arising from, or in connection with, this information. Singapore recipients of this information should contact Merrill Lynch (Singapore) Pte Ltd in respect of any matters arising from, or in connection with, this information. For clients that are not accredited investors, expert investors or institutional investors Merrill Lynch (Singapore) Pte Ltd accepts full responsibility for the contents of this information distributed to such clients in Singapore.

General Investment Related Disclosures:

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Securities.

This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Securities clients. Neither the information nor any opinion expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.

Securities and other financial instruments referred to herein, or recommended, offered or sold by BofA Securities, are not insured by the Federal Deposit Insurance Corporation and are not deposits or other obligations of any insured depository institution (including, Bank of America, N.A.). Investments in general and, derivatives, in particular, involve numerous risks, including, among others, market risk, counterparty default risk and liquidity risk. No security, financial instrument or derivative is suitable for all investors. Digital assets are extremely speculative, volatile and are largely unregulated. In some cases, securities and other financial instruments may be difficult to value or sell and reliable information about the value or risks related to the security or financial instrument may be difficult to obtain. Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment. Past performance is not necessarily a guide to future performance. Levels and basis for taxation may change.

This report may contain a short-term trading idea or recommendation, which highlights a specific near-term catalyst or event impacting the issuer or the market that is anticipated to have a short-term price impact on the equity securities of the issuer. Short-term trading ideas and recommendations are different from and do not affect a stock's fundamental equity rating, which reflects both a longer term total return expectation and attractiveness for investment relative to other stocks within its Coverage Cluster. Short-term trading ideas and recommendations may be more or less positive than a stock's fundamental equity rating.

BofA Securities is aware that the implementation of the ideas expressed in this report may depend upon an investor's ability to "short" securities or other financial instruments and that such action may be limited by regulations prohibiting or restricting "shortselling" in many jurisdictions. Investors are urged to seek advice regarding the applicability of such regulations prior to executing any short idea contained in this report.

Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned herein. Investors in such securities and instruments, including ADRs, effectively assume currency risk.

BofAS or one of its affiliates is a regular issuer of traded financial instruments linked to securities that may have been recommended in this report. BofAS or one of its affiliates may, at any time, hold a trading position (long or short) in the securities and financial instruments discussed in this report.

BofA Securities, through business units other than BofA Global Research, may have issued and may in the future issue trading ideas or recommendations that are inconsistent with, and reach different conclusions from, the information presented herein. Such ideas or recommendations may reflect different time frames, assumptions, views and analytical methods of the persons who prepared them, and BofA Securities is under no obligation to ensure that such other trading ideas or recommendations are brought to the attention of any recipient of this information.

In the event that the recipient received this information pursuant to a contract between the recipient and BofAS for the provision of research services for a separate fee, and in connection therewith BofAS may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom BofAS has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by BofAS). If such recipient uses the services of BofAS in connection with the sale or purchase of a security referred to herein, BofAS may act as principal for its own account or as agent for another person. BofAS is and continues to act solely as a broker-dealer in connection with the execution of any transactions, including transactions in any securities referred to herein.

Copyright and General Information:

Materials prepared by BofA Global Research personnel are based on public information. Facts and views presented in this material have not been reviewed by, and may not reflect information known to, professionals in other business areas of BofA Securities, including investment banking personnel. BofA Securities has established information barriers between BofA Global Research and certain business groups. As a result, BofA Securities does not disclose certain client relationships with, or compensation received from, such issuers. To the extent this material discusses any legal proceeding or issues, it has not been prepared as nor is it intended to express any legal conclusion, opinion or advice. Investors should consult their own legal advisers as to issues of law relating to the subject matter of this material. BofA Global Research personnel's knowledge of legal proceedings in which any BofA Securities entity and/or its directors, officers and employees may be plaintiffs, defendants, co-defendants or co-plaintiffs with or involving issuers mentioned in this material is based on public information. Facts and views presented in this material that relate to any such proceedings have not been reviewed by, discussed with, and may not reflect information known to, professionals in other business areas of BofA Securities in connection with the legal proceedings or matters relevant to such proceedings.

This information has been prepared independently of any issuer of securities mentioned herein and not in connection with any proposed offering of securities or as agent of any issuer of any securities. None of BofAS any of its affiliates or their research analysts has any authority whatsoever to make any representation or warranty on behalf of the issuer(s). BofA Global Research policy prohibits research personnel from disclosing a recommendation, investment rating, or investment thesis for review by an issuer prior to the publication of a research report containing such rating, recommendation or investment thesis.

Any information relating to the tax status of financial instruments discussed herein is not intended to provide tax advice or to be used by anyone to provide tax advice. Investors are urged to seek tax advice based on their particular circumstances from an independent tax professional.

The information herein (other than disclosure information relating to BofA Securities and its affiliates) was obtained from various sources and we do not guarantee its accuracy. This information may contain links to third-party websites. BofA Securities is not responsible for the content of any third-party website or any linked content contained in a third-party website. Content contained on such third-party websites is not part of this information and is not incorporated by reference. The inclusion of a link does not imply any endorsement by or any affiliation with BofA Securities. Access to any third-party website is at your own risk, and you should always review the terms and privacy policies at third-party websites before submitting any personal information to them. BofA Securities is not responsible for such terms and privacy policies and expressly disclaims any liability for them.

All opinions, projections and estimates constitute the judgment of the author as of the date of publication and are subject to change without notice. Prices also are subject to change without notice. BofA Securities is under no obligation to update this information and BofA Securities ability to publish information on the subject issuer(s) in the future is subject to applicable quiet periods. You should therefore assume that BofA Securities will not update any fact, circumstance or opinion contained herein.

Certain outstanding reports or investment opinions relating to securities, financial instruments and/or issuers may no longer be current. Always refer to the most recent research report relating to an issuer prior to making an investment decision.

In some cases, an issuer may be classified as Restricted or may be Under Review or Extended Review. In each case, investors should consider any investment opinion relating to such issuer (or its security and/or financial instruments) to be suspended or withdrawn and should not rely on the analyses and investment opinion(s) pertaining to such issuer (or its securities and/or financial instruments) nor should the analyses or opinion(s) be considered a solicitation of any kind. Sales persons and financial advisors affiliated with BofAS or any of its affiliates may not solicit purchases of securities or financial instruments that are Restricted or Under Review and may only solicit securities under Extended Review in accordance with firm policies.

Neither BofA Securities nor any officer or employee of BofA Securities accepts any liability whatsoever for any direct, indirect or consequential damages or losses arising from any use of this

information.