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Equity Research
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August Biotech Funding: Another Fumble

Football is back, unfortunately funding is not. August biotech funding of $3.06B is down from July's $3.35B, but still up +10% YoY due to an easy comp. We think public + private biotech cash burn is ~$6B/mo, so August's result falls well below that. IPOs are yet to improve, and follow-ons rebounded from trough levels in July but remain below historical averages. Concerningly, VC and PIPEs - which have had held up in recent months - softened too.

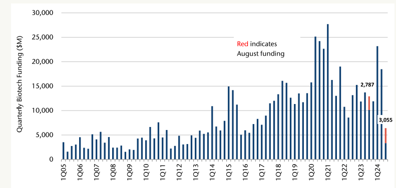
August Biotech Funding Takes Another Step Back. August biotech funding of $3.06B was up +10% YoY but is -44% lower than the LTM average of $5.4B. CGT funding of $144M was also weak and is down -5% YTD. The XBI sits at ~$96, flat from a month ago, but that didn't stop funding from falling for a second consecutive month. CRO valuations are correlated to TTM funding, which is still up ~23% YoY, but that growth is moderating (TTM funding was up 26% YoY at the end of 1Q24). IPO+FO+PIPE (funding to public biotechs) of $1.77B fell short of cash burn by those companies of ~$4.5B (we track ~780 of them). VC and PIPEs which had been trending above long-term averages in '24 are starting to slip. In terms of $ contribution, VC funding led at $1.28B, then FOs of $1.13B, PIPEs of $550M, and IPOs contributed just $97M.

IPO Drought Continues, Follow-Ons (FO) Rebound but Still Weak. IPO funding totaled $97M in August, up from $9M in Aug '23 but down -11% YTD. IPOs hit a 10-year low in '22 ($4.2B), then dropped lower in '23 ($4B). We are yet to see IPOs recover from these trough levels. Two deals were completed in the month—one in the US and one ex-US. FOs totaled $1.13B in August, up 64% YoY on an easy comp, but much weaker than the 1H average of $2.75B. While volatility in funding is not unusual, it is concerning that FOs (typically the largest funding category) have softened considerably the last two months. Over the last 10 years, FOs have averaged $1.72B/mo, so Aug's result fell well short of that. YTD, FO funding is up +45% after a strong start to the year, driven ~equally by deal volume and average deal size (+20% for each).

VC and PIPEs Both Weaker in August. VC funding of $1.28B was down -20% YoY and is the lowest result in '24 so far. We often observe that VC funding lags the public markets, which may explain VC's recent decline after public funding started to moderate in Apr '24. Despite the soft result, VC funding is still up +36% YTD, driven mostly by greater average deal size (+25%) but also deal volume (+9%). August PIPE funding of $550M was up +13% YoY on an easy comp, and YTD is up +88%. August is the second consecutive month that PIPE funding has fallen below $1B (Jan - Jun '24 saw no month of <$1B PIPEs). PIPEs had been tracking well above long-term averages in '24 (Jan - Jul avg of $1.6B vs 5-year avg of $800M), helping to drive total funding higher. However, we're now seeing PIPEs reverse course, whereas they had been contributing to stronger overall funding.

August Tends to be a Slower Month of Funding. Slower deal-making in August could be partly to blame for weaker biotech funding last month. On average, August funding has trailed monthly average funding by 23% going back to 2010. In fact, only two times has August funding beat the monthly average in any given year (2010 and 2022). Aug '24 funding is 52% lower than the Jan - Jul average, considerably more than the typical 23% gap observed since 2010. Thus, sluggish deal-making activity in August is not unusual, but this year's summer doldrum is more stagnant than we've seen in the past. Also worth noting, ~$3B of funding is far less than the $6B/mo we think is needed to replace cash on biotech balance sheets.

Exhibit 1 - August Biotech Funding Up 10% YoY



Source: Factset and Jefferies

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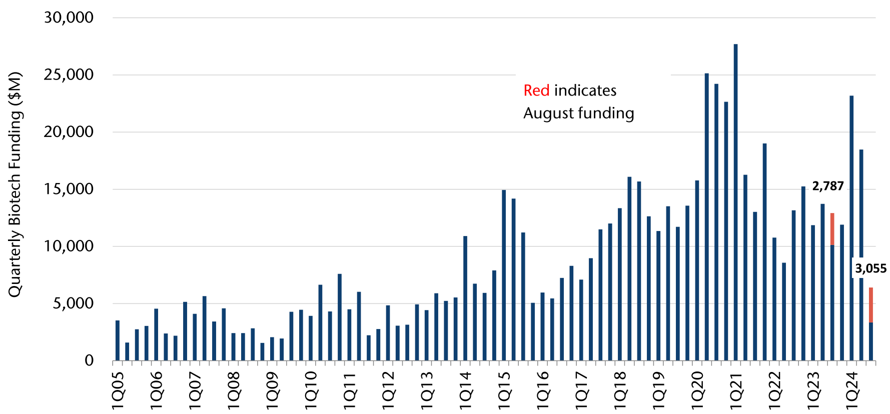
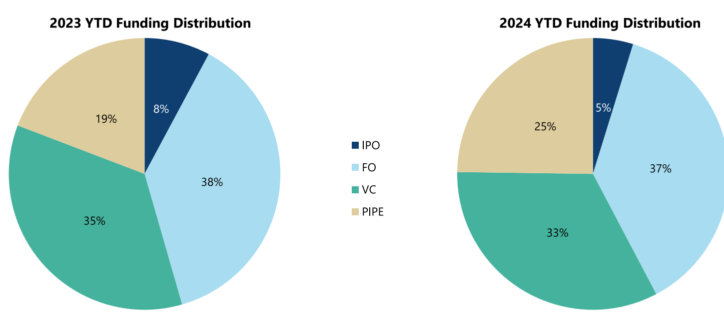
Biotech Funding Charts

Exhibit 2 - August Biotech Funding Up 10% YoY



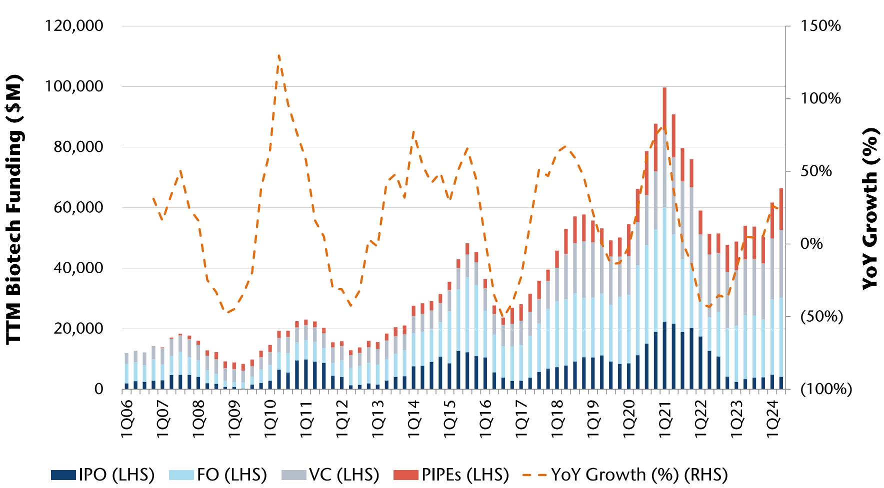
Source: Factset and Jefferies

Exhibit 3 - Follow-Ons Remain the Largest Funding Category, but PIPEs Growing



Source: Factset and Jefferies

Exhibit 4 - TTM Biotech Funding up 23% YoY



Source: Factset and Jefferies LLC

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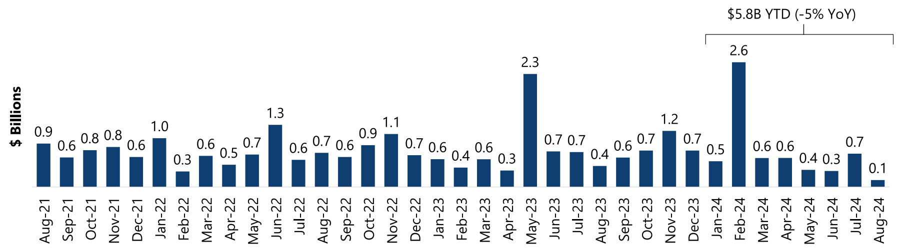
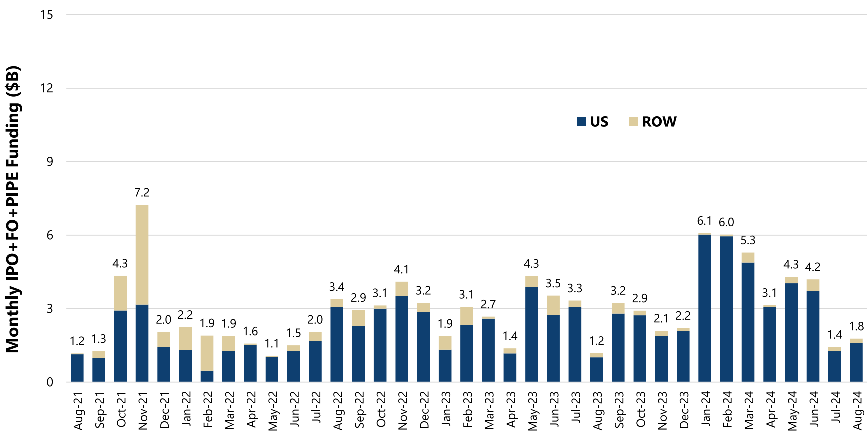
Exhibit 5 - CGT Funding Down -5% YTD



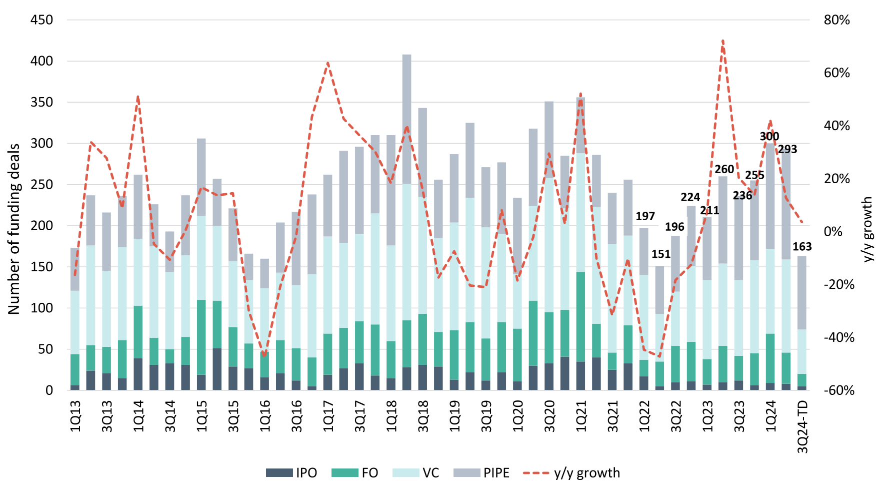
Source: Factset and Jefferies

Exhibit 6 - IPO+FO+PIPE Up 50% YoY on an Easy Comp



Source: Factset and Jefferies

Exhibit 7 - Deal Volume Growth Moderating



Source: FactSet and Jefferies

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Exhibit 8 - Historical Quarterly Biotech Funding

	IPO	FO	VC	PIPES		Total	y/y Growth	q/q Growth
2005	3,067.0	4,462.5	3,349.9	15.0		10,894.3		
2006	2,806.9	7,078.7	4,385.0	10.0		14,280.6	*31.1%*	
2007	4,738.5	5,963.7	5,822.8	1,240.1		17,765.1	*24.4%*	
2008	780.8	1,969.3	4,170.2	2,307.5		9,227.9	*(48.1%)*	
2009	2,116.8	4,415.0	4,034.3	2,180.6		12,746.7	*38.1%*	
2010	9,554.6	5,928.9	4,983.3	2,009.9		22,476.7	*76.3%*	
2011	2,405.1	4,214.2	5,145.8	1,723.4		13,488.5	*(40.0%)*	
2012	1,955.6	6,820.2	5,128.4	2,186.2		16,090.3	*19.3%*	
2013	4,326.4	8,509.9	5,297.5	3,031.0		21,164.9	*31.5%*	
2014	10,779.7	11,403.4	6,275.2	3,050.6		31,508.9	*48.9%*	
2015	10,982.1	23,702.4	7,556.5	3,426.9		45,667.9	*44.9%*	
2016	2,759.9	11,330.0	7,591.5	5,270.0		26,951.4	*(41.0%)*	
2017	6,812.3	19,803.9	9,153.6	3,779.8		39,549.6	*46.7%*	
1Q18	1,460.0	5,544.3	3,964.5	2,378.6		13,347.4	*88.2%*	*11.2%*
2Q18	2,467.4	4,409.5	5,420.4	3,786.1		16,083.5	*79.4%*	*20.5%*
3Q18	3,752.1	6,193.1	3,998.9	1,739.9		15,683.9	*36.5%*	*(2.5%)*
4Q18	2,891.5	3,439.1	5,360.0	947.2		12,637.8	*5.3%*	*(19.4%)*
1Q19	1,427.8	5,709.9	3,461.7	744.8		11,344.2	*(15.0%)*	*(10.2%)*
2Q19	3,155.6	5,039.6	3,398.5	1,921.5		13,515.1	*(16.0%)*	*19.1%*
3Q19	1,723.1	4,550.4	3,692.0	1,751.5		11,716.9	*(25.3%)*	*(13.3%)*
4Q19	2,078.8	6,780.7	2,821.1	1,880.2		13,560.8	*7.3%*	*15.7%*
1Q20	1,624.8	6,240.4	2,944.3	4,960.0		15,769.6	*39.0%*	*16.3%*
2Q20	5,835.3	12,100.7	4,894.6	2,310.9		25,141.6	*86.0%*	*59.4%*
3Q20	5,579.4	7,381.6	5,850.7	5,407.7		24,219.4	*106.7%*	*(3.7%)*
4Q20	5,911.2	8,066.9	5,582.9	3,090.4		22,651.5	*67.0%*	*(6.5%)*
1Q21	5,013.8	10,308.3	9,032.2	3,346.1		27,700.4	*75.7%*	*22.3%*
2Q21	5,180.3	3,739.3	5,008.3	2,334.7		16,262.6	*(35.3%)*	*(41.3%)*
3Q21	2,772.3	1,967.4	6,053.8	2,227.6		13,021.2	*(46.2%)*	*(19.9%)*
4Q21	7,201.5	5,066.3	5,387.0	1,353.2		19,008.1	*(16.1%)*	*46.0%*
1Q22	2,338.7	1,760.3	4,737.6	1,928.3		10,764.9	*(61.1%)*	*(43.4%)*
2Q22	386.6	2,412.4	4,422.5	1,347.0		8,568.5	*(47.3%)*	*(20.4%)*
3Q22	931.8	5,515.9	4,789.1	1,923.9		13,160.7	*1.1%*	*53.6%*
4Q22	545.4	6,220.9	4,786.0	3,696.1		15,248.4	*(19.8%)*	*15.9%*
1Q23	496.8	4,548.1	4,228.9	2,582.3		11,856.0	*10.1%*	*(22.2%)*
2Q23	1,374.8	4,968.1	4,483.1	2,897.7		13,723.7	*60.2%*	*15.8%*
3Q23	1,446.2	4,722.0	5,178.6	1,567.5		12,914.3	*(1.9%)*	*(5.9%)*
4Q23	654.8	4,833.5	4,678.3	1,730.1		11,896.6	*(22.0%)*	*(7.9%)*
1Q24	1,364.6	10,310.8	5,785.8	5,722.1		23,183.3	*95.5%*	*94.9%*
2Q24	650.2	6,190.1	6,845.5	4,789.1		18,475.0	*34.6%*	*(20.3%)*
3Q24	283.7	1,522.5	3,200.5	1,399.9		6,406.6	*(25.6%)*	*(48.0%)*

Source: FactSet and Jefferies

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Appendix

We believe our QC process is fairly thorough to focus on capital raising that is intended to fund R&D. Our final amounts may be lower than amounts found in competing sources, as a result of this process; however, we believe our totals are indicative of funds available to support drug development and, therefore, CRO/supplier revenue.

Description of Methodology

Understandably, consumers of this research wish to understand our process for capturing and ingesting the underlying data in order to integrate it into their investment decision processes. Below is a simple description of our process steps (in order):

- Combine feeds from financial intelligence platforms that list and detail IPO, FO, PIPE, and VC deals during the month
  - All deals related to the pharmaceutical or biotechnology industries
- Remove duplicate entries
- Verify that each deal was effectuated (not just offered or initiated) during the period
- QA/QC financial details of the deal (FX, amount, if the shoe was exercised, etc.)
- Remove companies that do not directly invest in drug development
  - Tools, manufacturing, healthtech, agtech, raw materials, etc.
- Determine if deal proceeds *are likely* to be spent on drug development activities that are offered by CROs
  - For example, a biotech company building a discovery software platform that *is not* developing an in-house pipeline would be excluded
  - Secondary offerings (e.g. VC funds monetizing positions to return funds to LPs) where the proceeds do not go into the company's coffers are excluded
- Manually "tag" each deal for characteristics of interest (i.e., Cell and Gene Therapy)

As a result of our "cleaning" process, our final amounts may be lower than amounts found in competing research. This dataset is tailored for analysis of drug development activities and includes funds that we believe flow into the CRO addressable market. If investors already use or are considering this biotech funding dataset for the analysis of other industries or applications, they should take the above steps into account.

Also for clarity, the above is not a new process. We have followed these steps for as long as we've been publishing this data. We added this explanation in response to inbound questions and increased attention to the topic.

Update on Deal Compilation Process

We constantly take inbound questions and comments into account to improve the completeness and usefulness of this report. As a result, we make updates to our process from time to time but strive to maintain comparability in those updates. For example, we discovered that a few biotech VC deals were tagged as "Miscellaneous Commercial services" or "Medical/nursing services" and, therefore, not being picked up by our tracker each month. To maintain accuracy, we adjusted previous months' funding totals to include the deals that were missed. Upon further analysis, we identified that our data provider reviews its categorizations after the end of the month; thus, waiting a few days to compile helps to ensure the completeness of our data (this is why we typically publish 5+ days after the end of each month).

How to Think About Biotech Funding Levels and Pharma Services Demand Translation

In an effort to improve this monthly product's value/readability, we augmented the analysis and describe our multi-factorial thought process as follows:

First, capital markets funding to biotechs is important, but should also be taken in context of the customer mix for these R&D supply chain vendors (CROs, CDMOs, Tools, Bioprocessing).

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- Important to our coverage because capital markets dependent (CMD) biotechs typically grow R&D well into the double-digits. For example, we estimated 2021 growth was 25%+. With such growth, these clients add octane to life sciences tools and services revenue growth.
- Yet, they are not the only factor because self-funding biopharma companies still represent 80% of global R&D and ~70% of outsourced spending.
- Context: Of the >1000 companies that we track, ~725 fit our definition of "capital markets dependent" (CMD), which is defined by an average [operating cash flow / revenue] < -20% for the current and previous years. In other words, they burn more than a de minimis amount of cash and are dependent on external capital to support their R&D spending. These companies represent ~20% of our global R&D totals *and meaningfully more of the CRO opportunity* given ~80-90% outsourcing rates by these companies. We estimate ~25-30% of outsourced spending.

Thus, the stability of mid- and large biopharma R&D protects CRO revenue from dipping into negative growth territory under most scenarios, but volatility in funding to CMD biotechs does lead to high bookings growth rates in strong funding markets and declines in weak ones. Those swings translate to faster or slower revenue growth rates, respectively, for CROs and other pharma service providers.

Second, each capital raise aims to fund multiple years of R&D, typically to support a biotech's achievement of its next "milestone." That milestone could be candidate selection, IND filing, Phase II data, Phase III data, NDA/BLA filing, etc. Under normal circumstances and at the company level, the money raised is not spent immediately or even in a single year. Biotechs (particularly those at clinical stages) typically do not tap equity markets annually unless they are being opportunistic. However, at the cohort level, we can think about aggregate funds raised vs. R&D dollars spent as a way to measure whether the *cohort's* spending power is increasing or decreasing. In our analysis, the reality check on this is cash on balance sheets:

- If biotech funds raised exceed R&D spending for this cohort, cash on biotech balance sheets should rise.
- If biotech funding undershoots R&D spending for this cohort, we should see a decline in cash on balance sheets and cash runway.

Trends over the last 4 years have confirmed these broad frameworks.

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(Article 3(1)e and Article 7 of MAR)

Recommendation Published	September 8, 2024 , 17:27 ET.
Recommendation Distributed	September 8, 2024 , 17:27 ET.

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