May 20, 2009

Vantage Point - How broken is the biotech funding model?

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When Ernst & Young published its annual review of the biotechnology sector earlier this month the coverage broadly focused on one key message, and perhaps predictably for the media, it was the bad news. The biotech funding model is broken and unsustainable in the current climate, many of the headlines read.

Undoubtedly times are tough for the sector, with private and public sources of capital facing a squeeze. However, speaking to *EP Vantage* this week, two members of the Ernst & Young biotech team pointed out that the report was not suggesting the model in its entirety is lying on the credit crunch scrap heap. Companies have to be realistic and mindful of their bank balance and strategy, but the fundamentals of the sector are strong, and there is still money out there to be had.

The traditional biotech funding model of seed capital, a few venture capital rounds and then IPO, before moving on to becoming sustainably profitable, has certainly come under strain in the last year or so. Private venture funds raised by the sector in Europe last year dropped 20% to €932m, the second consecutive year of declines after the all-time high achieved in 2006, and one of only two years since 2000 that figure dropped below €1bn, Ernst & Young's report, Beyond Borders, revealed.

The private market held up better than the public markets, particularly towards the end of 2008. Public equity financing plunged from €4bn to €833m between 2007 and 2008, as traditional stock market investors fled from the high risk drug development world. Only three life science companies floated last year, none in the second half.

Financing event

IPOs are an important financing event for both the companies and the venture capital funds, which can use the opportunity to make a return on their investment. Therefore when such a key link in the biotech funding model disappears, a prognosis of "broken" appears logical.

"Is the typical biotech model sustainable, if there is no cash there and no one to pass the baton on to?", says Chad Whitehead, a partner and member of Ernst & Young's global biotech advisory panel. "In the past, very few companies went out of business, even if the science wasn't that great they were able to secure some type of financing. But now we are seeing a Darwinian effect, those with great science and management should be able to succeed assuming they have some financial resources. If you don't, you may not, because the funding is not there, particularly in the public equity markets."

Clearly, a company with a highly valued or proven technology and a respected management team is going to have a better chance of tapping restricted funds. However, for the biotech world Darwin's theory of natural selection is sometimes going to mean survival of the financially fittest, rather than survival of those with the best science.

"We will probably see more companies going under, but is that going to be the right companies, those that in the cold light of day won't stand up to scrutiny, or are we going to lose some good companies that just didn't have enough cash in the bank when Lehmans collapsed in September and the credit crisis worsened," asks Ian Oliver, a senior manager in E&Y's biotech team.

Innovation concern

What the credit crunch will mean for innovation is an important concern. With venture capital focusing its scarcer funds on existing or later stage investments and the public markets refusing to shoulder any of the risks associated with early stage drug development, the breaking of the model could have serious implications for future medical breakthroughs, if it reduces the shots on goal.

Mr Whitehead describes R&D is a "portfolio game", you win some you lose some. Without funding the failures, the winners might not be found. That requires commitment in terms of time and cash, not a popular investment proposition at the moment.

Of course, one source of funds that is still flowing is from big pharma. Their troubles are well known, in terms of patent cliffs and slowing productivity, and early stage, small drug developers represent a crucial well of innovation. And importantly, the biggest forces buffeting pharma have nothing to do with the recession.

"I see pharma money becoming more and more prevalent and key to biotech survival," Mr Oliver says. "Big pharma investing in biotech is not new, but even in a year of global economic crisis and recession, M&A and alliances and partnering deals, whether Europe or US, has continued to grow."

Still hungry

The appetite of big pharma is certainly not seen abating anytime soon. However companies should not assume they represent the sole answer to the broken model. Buying an unprofitable biotech does nothing for the bottom line, something that chief executives cannot ignore because falling profitability will be punished on the stock market.

This means although early stage assets are cheap, big pharma will still strike licensing deals or partnerships where possible, to protect profit margins.

"If you buy a biotech without an approved product or revenue stream you take an immediate hit on the cost of investment. Whereas alliances allow you to keep the investment to upfront payments and milestones, and allow you to turn the tap off if the project is unsustainable. It makes commercial sense," says Mr Oliver.

So if alliances are set to continue at a heady pace, companies need to consider what this means for fundraising.

"We've complained about the drip feed (of funds) into European biotech, in US they are more able to provide significant amounts each round, but in Europe and the UK in particular the drip drip has been an issue, and that will still be the case with pharma partnering and alliances due to the milestone approach to deals," Mr Oliver says.

Survival guide

Which takes us back to the broken model, and how companies can hope to survive in the coming months, as funding continues to be hard to find. The Beyond Borders report suggests considering sustainability earlier in lifecycles through fee-for-service revenues, or buying marketed products. Urging companies to be flexible and creative is a central piece of advice.

Perhaps most importantly, companies might need to accept that a takeover bid has to be the end game to work towards, and not view it as a failure, as some chief executives assume.

"At the beginning of the model, with companies like Genentech, Amgen, Gilead, at the start of the journey the goal was to become a FIPCO (fully integrated pharmaceutical company), but those days are over," Mr Whitehead says.

He points to the situation in the UK, where many people bemoan the sector's inability to create sustainable biotech companies, but where a number of companies have been bought for substantial premiums.

"Why isn't that a successful model?", he asks. "Then the UK can get back to what it does best, developing innovative science."

Strong fundamentals

The coming years are likely to see new models, or at least newer versions of the old model appear. Something that is already happening and likely to continue is earlier stage research collaborations with big pharma.

"The traditional model of biotech financing is the model that we are saying is broken. But biotech is always looking for other models and has been successful and creative in that respect," Mr Oliver says.

He points out that every year the biotech product pipeline continues to develop and the industry, which is actually still in its infancy compared to pharma, should increasingly throw up successes.

"Yes the risks are still there and the failure rate is still there, but the product pipeline is growing. There needs to be a point where a critical mass of companies across the world starts to deliver new molecular entities, and then we will start to get the benefit of those successes coming through. That is a fundamental for continued investment in the industry."

Signs of biotech's success are already apparent. Forecast consensus data from EvaluatePharma reveals that biotechnology drugs will account for half of the sales of the top 100 drugs by 2014, up from just 28% in 2008. For companies struggling to survive the current funding drought, that is a statistic to remember.

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