The Future of Biotechnology Funding

AN INTERVIEW WITH VENTURE CAPITALIST DENNIS PURCELL

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Dennis Purcell

Recent economic instability has brought the venture capital market its share of woes, but venture capitalist Dennis Purcell says the threats and challenges confronting venture capital today have been a long time in the making. With the current constriction in capital, the venture capitalist community is facing up to the need for serious restructuring, no more so than in the biotechnology field where a failure to invest now could have lasting repercussions on health care innovations for years to come.

A veteran of the industry, Purcell has served since 2000 as senior managing partner of Aisling Capital (www.aislingcapital.com), a firm specializing in biotechnology. In his career, Purcell has had many opportunities to witness and become involved in the process by which companies move from product concept to public entity. “In many cases,” he says, “technologies are developed at academic institutions or hospitals or universities. An entrepreneur licenses the technology from that institution, goes to the venture capital community, and raises what they call a seed round of capital (that’s an early round of capital) in order to pay for the technology and to start operations of the company.” Once the company has successfully launched, he explains, it “goes out and tries to raise additional venture capital money to move the products forward.”

From Investment to Profits

A biotechnology company will usually go through 3 or 4 different venture capital fund-raising efforts before it can bring its products into the clinical arena, at which point, Purcell says, the entrepreneur will try to “take the company public through an IPO [Initial Public Offering] or do a collaboration with a larger pharma company that provides capital or actually do an outright sale of the company.”

Venture capitalists can get involved when the product is only an idea, or, as is Aisling Capital’s strategy, enter the process later when a company has already been formed and needs additional investment before the product can be taken to the market. In addition to identifying sources of capital to fund this development, Purcell observes, seasoned venture capitalists can offer the company management—individuals typically new to the world of business development—wisdom about successful strategies, insights about mistakes to avoid, and “a wide umbrella of contacts” to facilitate the company’s further maturation. “We may know people that can help in various parts of the development or make introductions

in order to ensure that the entrepreneur doesn’t have to recreate the wheel,” he explains.

As for how to identify promising projects, Purcell notes, “The name of the game is to be able to find products or technologies that are superior to other ones, and you do that however you can, either dealing with people where you’ve had prior experience, looking at scientific papers, going to scientific meetings, [relying on] word of mouth. Anyway you can, you try to prospect in a way that differentiates you, a venture capitalist, from another venture capitalist.”

Tough Times

In turbulent economic times the role of the venture capitalist remains substantially the same, but, Purcell says, the lack of available capital has forced venture capitalists to prioritize carefully and turn down

prospects they might once have pursued. “Everything is taking longer now to accomplish,” he observes, “whether it’s licensing the technology or raising capital.” Consequently, companies need venture capital support for longer periods of time; Purcell notes,

“where we may have planned to support them for 2 or 3 years, just through 2 rounds of financing, it may be 3 or 4 years through 4 or 5 rounds of financing.” As a result, he says, “a lot of emphasis is being placed on existing portfolio companies and making sure they have enough capital to succeed.” That trend in venture capital means that it is much harder to follow the traditional model from product concept to public company, and those companies who do succeed have had to raise much more capital than their predecessors.

Even in times of economic prosperity, product development in the biotechnology industry takes more capital and more time than many other industries, but the payoffs in biotechnology can be substantial, not only financially, but also in terms of human welfare. In those cases in which a product or company meets with success, Purcell says, “the rewards will be there because generally what we’re working on are breakthrough medicines that really affect disease.” In the biotechnology field today, he asserts, “the scientific discovery process is as robust as ever. We are making great progress in many disease areas, and many disease areas, because of biotechnology, have become more chronic in nature rather than fatal in nature.”

But while new and exciting discoveries continue to be made, Purcell says the current economic climate has only hastened the industry’s need for “restructuring and rethinking.” The traditional model through which a start-up company moves to IPO status is “in severe danger of not existing anymore” as the flood of

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biotechnology IPOs in the 1990s has petered to almost nothing in the last few years, he says.

The gradual drying up of available capital is a result of the industry's failing to provide lasting appeal to investors, Purcell explains. He suggests that venture capitalists have in the past sunk too much money into projects, hoping that a second or third clinical trial would prove a product's worth. "We've paid the price for that," Purcell says. "The capital that has been invested in the biotech industry in the aggregate has not produced a return for investors... Every once in a while there are some great returns, and that's why people continue to try to invest in it. But if you aggregate it all together, we have not produced the returns that we need [in order] to interest investors."

With venture capital and Wall Street financing both harder to find and the pharmaceutical industry confronting its own issues, in particular a lack of productivity in pharmaceutical innovation over the past decade compounded by a large number of drugs moving off patent in the next several years, all 3 major areas of funding for the biotechnology industry are struggling. Thus, the question for the biotechnology field, says Purcell, is "Who is going to fund innovation?" The demand for new drugs and enhanced medical treatments will only increase, but the current environment suggests that funding for the development of such innovation will be difficult to come by, particularly because the standards by which investors judge the quality of potential investments are getting tougher. "We're into an era," Purcell explains, "where it's not good enough simply to have a drug that works or to have a drug that gets approved: it has to be a drug that is actually going to get reimbursed. . . A lot of people talk in biotech about trying to develop products through a proof of concept. Really, in today's world, there has to be a proof of relevance, [proof] that the drug you're developing is going to be relevant to a disease state and that it's going to be relevant to doctors and patients and not just a follow-on or a 'me-too' type of drug."

Discoveries involving diseases such as cardiovascular disease that affect large populations (and thus offer the greatest opportunity for eventual profit) are and will continue to be expensive to develop, Mr. Purcell says, because they are subject to particular scrutiny by regulatory agencies, especially in the wake of withdrawals from the market of drugs such as rofecoxib (Vioxx).

Necessary Changes

What can be done to change the outlook for investment in biotechnological innovation? Governmental agencies can take the lead in fostering developments in the industry, Purcell says. As examples, he suggests tax assistance for start-up companies, a reduction of some of the more onerous and costly burdens associated with becoming a public company, and better facilitation

of the process of getting products approved by the Food and Drug Administration.

In addition to external assistance, Purcell says the industry itself has to become more organized through communication, collaboration, and consolidation. Thirty years ago, there was much more information sharing through activities such as publishing. "Then," he explains, "with the advent of the biotechnology company, [the climate] shifted a little bit more toward not sharing the information and starting your own company." The result, decades later, is an industry that has upwards of 5,000 companies. While the pharmaceutical industry's handful of players leaves little room for competition, the large number of companies in the biotechnology industry results in inefficiencies—"we have 5,000 CEOs," Purcell points out, "we have 5,000 headquarters"—and a lack of focus that turns off potential investors.

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The emphasis in the biotechnology industry's culture on independence over cooperation may have hampered progress toward the consolidation that industry observers have been predicting for years. The field has arrived at a point at which companies are going to have to collaborate

and consolidate in order to survive. Now that capital is short and venture capitalists are becoming more ruthless about selecting companies to support and cutting off companies that do not live up to their initial promise, Purcell notes that there are "a record number of bankruptcies and companies that have ended up ceasing operations, which, hopefully, although painful, will lead to an industry with somewhat fewer companies that are better capitalized and are stronger."

Far from harmfully reducing competition in biotechnology, such consolidation moves the industry from financing "glorified science projects," as it did in the 1990s, to a real effort to transform that investment and energy "into sustainable businesses in order to attract capital," Purcell notes. As one step toward greater sustainability, he says the industry is beginning to investigate product concepts virtually before committing to a large company infrastructure. "Take a compound or take an idea and simply do it on as virtual a basis as you can," he suggests. "If it doesn't work, you just walk away from it, and if it does, you continue to develop it."

The costs of the biotechnology industry failing to transform itself at this critical moment may be very high indeed. "This is a long lead-time business," Purcell warns, "and you can't simply decide today that we're not going to fund [innovation] and then turn the faucet back on tomorrow." In the United States, as the baby boom generation ages, we can expect to see an explosion in chronic ailments and disease. "It's not as if we've cured all kinds of diseases," he says. "There's a long, long way to go. And therefore, if we don't fund them now, we're not going to have the drugs when we actually need them." **CTS**