Life support for life science innovation?

A think tank and an investment bank have proposed solutions to address the lack of funding to carry biotech companies through the early stages of clinical development.

Investment in life science ventures is in need of new ideas. In a way, there is enough money around—more than $47 billion of funding went into biotech in 2006, surpassing even the dizzy heights of the 2000 bubble (p. 156). But it is not being distributed to the places where it's needed. Increasingly, investors are migrating away from early-stage biotech ventures to opportunities inside and outside biotech that offer better returns and less risk. All of which explains why two very different organizations have independently been occupied in designing and exploring new financing mechanisms to promote life science investment.

Last October the Milken Institute, established by philanthropist, Michael Milken and his brother, Lowell, published a report called *Financial Innovations for Accelerating Medical Solutions*. It puts forward six specific solutions to address fundamental, and universally acknowledged, deficiencies in healthcare provision, such as reduced R&D output, the 'unfundability' of good, truly innovative ideas and the shortage of capital to support drug discovery through phase 2 trials.

The same month, the European Investment Bank (EIB) was presenting ideas of its own on the funding of European biotech to an audience at the EuroBio meeting in Paris. EIB clearly wants to put money in biotech but has been grappling to find the means to help and, in many ways, its dilemma illustrates the impasse that faces would-be investors in biotech.

The EIB has faced two specific difficulties in funding biotech. The first is that it is a bank, not an investment house. It makes loans and, to minimize its own cost of borrowing, it must preserve its AAA credit rating. That in turn means that it can undertake only small amounts of high-risk lending, something that doesn't sit well with the average biotech proposition.

The second problem for the EIB is that its investments must, largely, be in Europe. The problem isn't that investments in biotech in Europe are necessarily riskier than elsewhere, but rather that there are myriad other opportunities in Europe as deserving as biotech of EIB loans, but with a lower risk profile. EU expansion has reduced barriers to business, for instance, and currently over 80% of European private equity is gainfully employed in restructuring traditional industry or retail businesses—M&A, management buyouts, the use of cheaper labor and other market-flattening mechanisms.

This is a dilemma not only for the EIB and for Europe. There is a real problem getting truly innovative biotech started anywhere these days. Why flirt with biotech when you can get spectacular returns from land or property or modernizing metal-bashing industries? If you want to invest in high technology, then information technology, software and telecommunications look like better bets, avoiding, as they do, the black box of biology. The private equity specialist database, Tornado Insider, reported recently that in 2006, for the first time in six years, biotech and healthcare's share of high-tech private equity investments fell (to 26% in number and 35% in value from 29% and 42%, respectively, in 2005). Even those investors who stick with biotech are naturally tending to migrate up the food chain to less risky investments.

The general solutions put forward by Milken can be illustrated by the sort of measure that the EIB is now implementing. For instance, one Milken suggestion is that the scientific risk inherent in research-based endeavors should be reduced by pooling intellectual property. In essence, the risk of failure can be reduced if an investment house owns a stake in several companies each of which is developing a single drug for, say, respiratory disease. Banks couldn't lend to the companies, but they could lend to the investment house. Milken cites the activities of groups, such as Paul Capital and Drug Royalty LLC, which provide up-front cash against a percentage of future royalties from early-stage drugs, but the principle could also be applied to earlier innovation.

Another Milken solution is that the more intimate involvement of large companies or foundations could enhance the credit quality of a venture and attract investors. They envisage a special-purpose vehicle (SPV) that brings together valuable early-stage assets (one or more biotech companies, for instance), a source of capital (a pharma company or a charitable medical foundation, say) and a risk-mitigation element (which might be a form of insurance or a guarantee of loan repayment from the same foundation or pharma company). Clearly, the involvement of a committed foundation or pharma company provides not only capital and a good credit rating but also extensive expertise in the investment area.

The EIB's twist on that theme is the Risk Sharing Finance Facility (RSFF), a scheme that has just been approved as part of the EU's Framework 7 research program. Under RSFF, the EIB with match up to 1 ($1.29) billion from Framework 7 with up to 1 ($1.29) billion of its own resources. Both the aggregation in this approach, and the expertise of those assessing the R&D are factors that in effect allow the bank to support projects that individually would be too risky otherwise.

The challenge now is to make the transition from cartoon, theoretical SPVs or RSFFs to real ones. The chief obstacles to progress are likely to be the rigid independence of biotech ventures, the continuing rejection by pharma companies of 'not invented here' and the balkanization that seems to accompany any move to the interdependence of nations. Fortunately for cash-starved biotechs, it is still the case that the best catalyst for change, at least in the capitalist world, is money.