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# New path to profits in biotech: Taking the acquisition exit

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## **Abstract**

The paper aims to demonstrate that biotech start-ups increasingly are choosing trade sales to large pharma or biotech players to move their drug discoveries into the marketplace. It draws on Bain & Company analysis to show that this can provide higher return on investments than an initial public offering, or IPO, once the traditional exit for entrepreneurs and venture capitalists (VCs), but now far less common, and in a shorter time. It argues that pharma companies, VCs and biotech firms need to adapt their approaches to this shift and identifies new priorities for each of these key actors in the sector. In addition to its central thesis, the reader will take from the paper analysis of historical biotech trade sale and IPO data; analysis of pharma companies' strategies for and results from licensing and acquisition deal making; analysis of VCs' strategies for and results from biotech investments; and analysis of biotech companies' strategies for and results from crystallising the value of drug discoveries. The latter includes the recommendation of a 'parallel trade' approach that seeks maximum flexibility by preparing the company for both IPO and trade sale.

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## **INTRODUCTION**

For biotech entrepreneurs and the venture capitalists (VCs) who back them, a public stock offering has long been the Holy Grail of financial success. The money raised through an initial public offering (IPO) not only rewarded a biotech firm's innovations and persistence, it also enabled the company to remain a relatively small, independent player with its own distinctive culture as it pursued commercialisation. But with biotech IPOs languishing, start-ups increasingly are choosing a different path to move their innovative drug

discoveries into the marketplace – by selling the company to a large pharma or biotech player.

The trade sale, as it is known in the industry, typically offers successful private biotech companies a higher return on investments in a shorter time than an IPO, according to Bain & Company analysis. Yet, despite the gathering momentum of trade sales, many pharma companies, VCs and biotech firms have not fully adjusted to the new trend. The traditional model – start-ups sustaining themselves through successive rounds of financing until their eventual IPO – continues to shape the investment cycles, operating objectives and overall business strategies of the major players.

The trade sale model, on the other hand, requires some different approaches. Pharma

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companies, for instance, need to get better at both the strategy and the skills of deal making as competition sharpens for the most attractive biotech firms. VCs, for their part, are being pressed to build deeper management and transaction expertise so they can provide more hands-on involvement with biotech portfolio companies. Not only do VCs now have to make the right calls about earlier trade sale transactions, they are also guiding private companies through later stages of development leading eventually to the launch of biotech compounds on their own. Biotech firms themselves must develop the flexibility to pursue a 'parallel trade' approach, preparing for both a trade sale and the more distant possibility of an IPO. This shift may be the most profound of all, often requiring changes in a biotech firm's strategy and organisation, with strong decision-making processes to ensure that the business stays focused on the options with the highest value.

As pharma companies, VCs and biotech firms reckon with these changes, it is worth bearing in mind the business model of their healthcare sector neighbour, medical devices. Entrepreneurs typically sell medical devices companies relatively quickly to larger entities rather than going it alone to an IPO. As the IPO declines as biotech's exit of choice and pharma's in-house drug discovery continues to shrink, the model of acting as an integrator of smaller technology leaders – exemplified in medical devices by Medtronic – may well turn out to be the most attractive approach for pharma and biotech companies as well.

## TRADING UP

Trade sales have been growing, in terms of both deal frequency and the size of private biotech acquisitions. While the early years of this decade each saw fewer than 60 deals with a value in excess of \$50m, with as few as 44 in 2002, this figure spiked to 70 in 2005, according to Bain estimates (Figure 1).

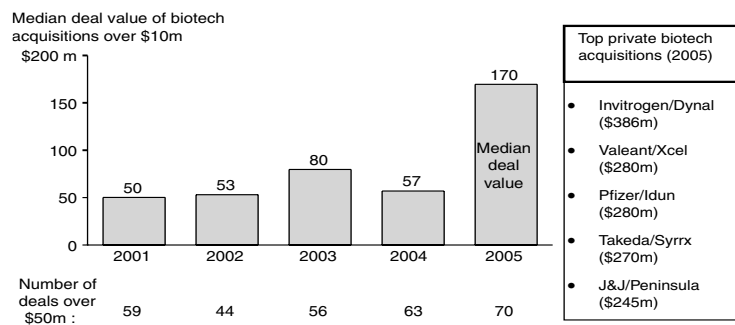
Moreover, the value of these deals has more than tripled over the same period. Driven by a number of super-sized transactions involving private companies – Invitrogen/Dynal (\$386m), Valeant/Xcel (\$280m), Pfizer/Idun (\$280m), Takeda/Syrrx (\$270m) and Johnson & Johnson/Peninsula (\$245m) – 2005's median deal value soared to an estimated \$170m. This compares to just \$57m one year earlier or \$80m in the somewhat richer 2003.

The year 2006 has reinforced this accelerating trend. Other private 'mega-deals' – notably Pfizer/Rinat (\$500m), Merck/GlycoFi (\$400m), Amgen/Avidia (up to \$380m) and Gilead/Corus (\$365m) – have been completed through the third quarter of 2006.

Clearly, trade sales have become an established alternative for the biotech sector. In total, almost 300 deals in the \$50m and larger category went through between 2001 and 2005, and the pace of deal making in 2006 is ahead of 2005, with 73 deals above \$50m forecast for the full year.

## IPOS IN LIMBO

Outside the US, investors are particularly wary of newly listed biotech stocks. All but 20 of the biotech IPOs from October 2003



**Figure 1: Biotech acquisitions are up**  
Source: *In Vivo* database

to August 2005 took place in the US. In the two previous 'windows', however, the proportion of US and non-US IPOs were roughly equal: 55 and 47 in 1995–1996 and 56 and 47 in 1999–2000.

Despite a recent increase in European biotech IPOs, there can be no doubt that the centre of gravity in the biotech business has clearly shifted to the US, and the future of the industry looks uncertain elsewhere, with the exception of islands of excellence such as the UK and Switzerland. To the limited extent that regions outside the US are producing competitive biotech companies, the lack of local support for IPOs can only reinforce the likelihood of acquisition exits for them.

Even in the relatively supportive US market, however, the IPO hurdle keeps rising for biotech start-ups. Thomson Venture Economics data show that average spending by private companies to ready themselves for an initial public offering rose to \$84m by 2004 – almost three times the \$30m average that prevailed as recently as 1995 and six times 1986's \$14m.

At the same time, biotech IPO candidates must reach a far more advanced state of development to attract willing investors. A decade ago, a technology partnership and Phase I or II clinical trials was sufficient. Twenty years back, some preclinical development did the trick. Today, investors expect technology revenue, major partnerships

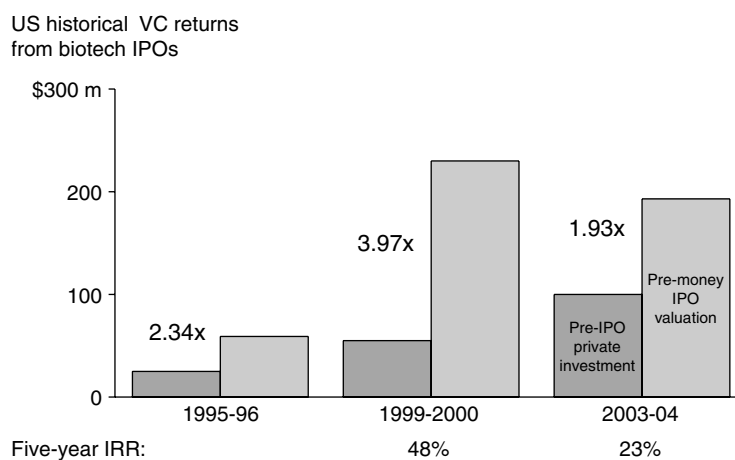
and Phase III clinical trials from a company going public.

These increased requirements are also reflected in a trend of declining valuations. Even screening out the boom period of 1999–2000, when private investments in biotech companies typically earned a four-fold return, multiples have fallen. The ratio of pre-IPO private investment to the valuations of IPO candidates immediately prior to their offerings (the so-called 'pre-money IPO valuation') stood at 2.34 times in 1995–1996, according to Bain analysis. This had declined to 1.93 times by 2003–2004 (Figure 2).

Viewed another way, private pre-IPO investments are quickly approaching an average of \$100m compared with \$30m a decade ago. This defines a much higher level of risk for the typical \$300m VC fund, which has fewer chips to place as a consequence.

## PHARMA: LEARNING TO LOVE LICENSING & ACQUISITION (L&A)

Trade sales have been fuelled by the pharma industry's need for new drug launches to replace once-lucrative products now coming off patent. Indeed, licensing and acquisitions account for more than 50 per cent of the current new product pipelines of the major pharma companies. Even the leading biotech companies are dependent on L&A: 79 per



**Figure 2:** US investment multiples are down while private funding needs are up  
 Source: Start-up May 2005

cent of Amgen’s predicted peak pipeline revenue, for example, results from compounds acquired through licensing and acquisition.

Despite their reliance on L&A to build their product portfolios, however, pharma and biotech companies vary widely in their deal-making capabilities. The most successful acquirers excel at both deal-making strategy and execution, with clear L&A strategic objectives and systematic processes in place to carry them out.

Our analysis shows that flexibility is crucial in all areas of deal-making strategy and execution. The possible range of deal structures and operating models for L&A is broad. So it is striking how wide a spectrum of possible combinations some major players have managed to accommodate in their deal making.

Consider Biogen, Johnson & Johnson and Novartis: in their deals over the past 10 years this trio has ranged from licensing/partnering to outright acquisition via minority interest/joint venture and majority interest. At the same time, their deals have spanned every model from individual product/technology licences and partnerships to arm’s-length ownership and full integration.

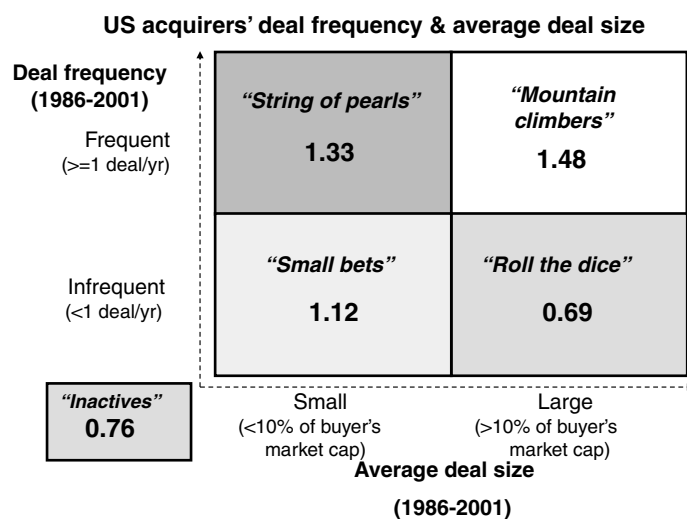
Naturally enough, outright acquisitions tend to be more integrated and individual licensing deals less so. But in terms of deal structure and the operating models adopted

by the acquirers, the three companies arrive at a notable variety of combinations. Besides the fully integrated acquisition (Biogen and Novartis) and individual product/technology licensing (all three), these include arm’s-length acquisition (J&J), arm’s-length majority interest that approaches partnership (Novartis) and licensing that stretches to partnership (Novartis again).

In our view, pharma companies should be thinking hard about putting more of the surplus cash their current business generates to work in licensing and acquisitions. At the same time, however, increasing L&A will address their pipeline deficits only if they have a coherent guiding strategy and the flexibility to accommodate a broad range of governance and operating models.

### SWINGING THE ‘STRING OF PEARLS’

The most successful deal makers across industries, Bain research has found, make more frequent acquisitions of small- to medium-sized target companies, in deals where the value is generally less than 10 per cent of the acquirer’s market capitalisation. We call this approach the ‘string of pearls,’ with companies moving from strength to strength, building their deal-making capacities and adding key assets through a series of smaller-scale acquisitions (Figure 3).



**Figure 3:** The penalty is greatest for one-shot mega-deals or sitting on the sidelines  
Source: Bain Learning Curve Study

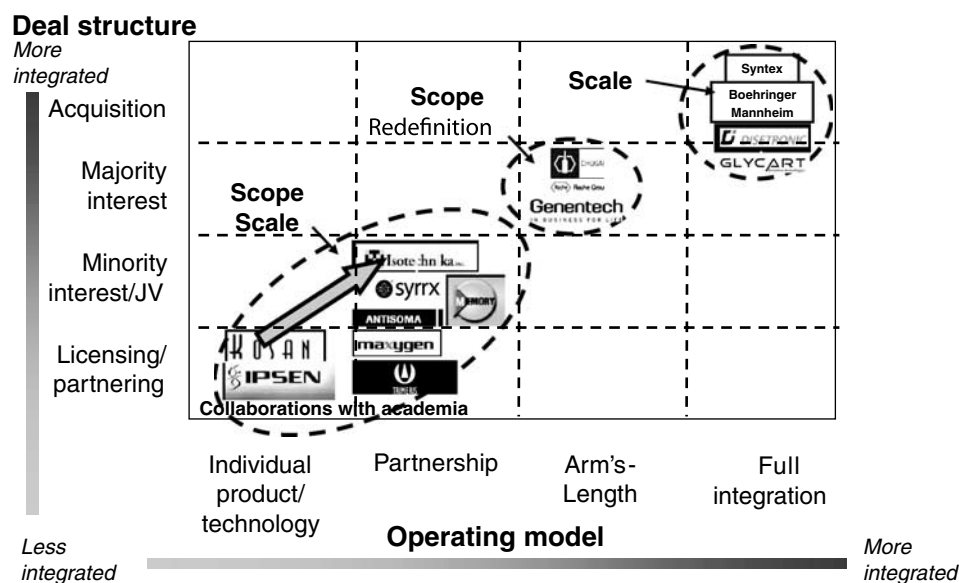
Roche provides a good example of the ‘string of pearls’ approach to L&A. Roche’s acquisition of Genentech in the early 1990s, for example, was a deal that some of its peers would not have considered. It came with strings attached, in particular the requirement to keep it at arm’s length – very much in contrast to Roche’s own acquisition of Syntex and the standard strategy of other big pharmacos. By not insisting on full integration and allowing the US company to operate at arm’s length, Roche gained access to key technologies and redefined the scope of its pharma business. The Genentech stake has contributed significantly to Roche’s value creation since the deal (Figure 4).

Equally, while 1998’s outright acquisition of Boehringer Mannheim (BM) may look more conventional since it was fully integrated, the reality was rather different. The deal was aimed at increasing Roche’s scale in diagnostics. After it was completed, however, Germany’s BM took a leading role in the new diagnostics unit, bringing its significant market presence and knowledge to bear on a business that already had strong technology. Combining these complementary strengths positioned Roche as a global leader in diagnostics, a business that has emerged as one of the company’s two strategic pillars.

Other noteworthy Roche deals include its partnership with Antisoma of the UK. While results to date have not been as robust as some of the company’s other deals, Roche’s minority stake has provided a relatively low-risk option on Antisoma’s future pipeline.

Roche’s approach underscores the importance of an effective deal-making capability. The ‘string of pearls’ assembled by Roche has supported a broad strategic transformation of the company. Where 15 years ago it was a relatively unfocused pharma conglomerate, its L&A and divestitures (spinning out both the non-core fragrances and vitamins/consumer businesses) have turned it into a highly focused market leader in oncology therapeutics and global diagnostics. One result: Roche has created almost twice as much value between 1990 and 2005 as the S&P Pharmaceutical Index, according to Bloomberg data.

Bain research underscores the effectiveness of the ‘string of pearls’ strategy. When we looked at 724 deals between 1986 and 2001, frequent acquirers of relatively small target companies outperformed those that placed infrequent small bets, as well as acquirers that occasionally rolled the dice, making large but infrequent bids. Only one category of deal makers – frequent acquirers of large targets –



**Figure 4:** Frequent deal maker Roche: flexibility in deal making and governance

Source: Datamonitor; IMS; Roche press releases

outperformed the string of pearls approach. As trade sales become more prevalent, the message for large pharma and biotech companies is clear: experience counts, and those companies that can move farther and faster along the deal-making learning curve will achieve the highest returns.

**VENTURE CAPITAL: IN FOR THE LONG HAUL**

As noted, investors' increased requirements on biotech IPO candidates are reflected in lower valuations, with pre-money IPO valuations down below two times pre-IPO private investment lately. This has inevitable consequences for the returns achieved by VCs financing the sector. At 1.93x, five-year internal rates of return (IRR) fall to 23 per cent, according to our analysis (Figure 5).

Contrast this with the 3.5x median that our analysis reveals on trade sales of private biotech companies (2003–2005). This is close to the 3.97x achieved during the 1999–2000 IPO boom and underscores VCs' enthusiasm for the acquisition exit – especially as the median pre-acquisition investment in this period was \$43m, compared to \$78m on IPO companies.

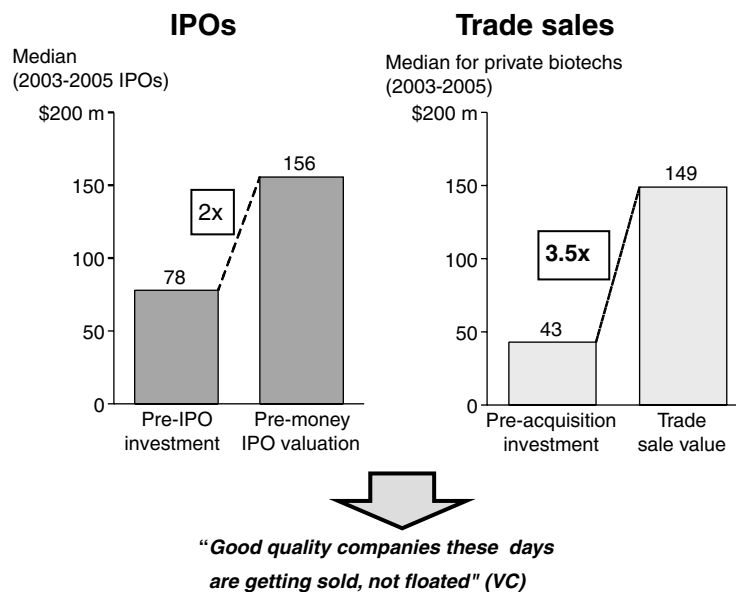
A further factor here is the reality that VCs need to assume they are 'in for the long haul',

because an IPO these days is more likely a financing event than a real exit for VCs. A fifth round of financing is now typical. As a consequence of having to support companies for longer periods – to 'series E', a stage that was uncharted territory as recently as the 1990s – less financing is available for early-stage companies.

Thus, as trade sales accelerate, VCs are discovering that they need to expand their skills. Increasingly, VCs find they need to intervene in portfolio companies held longer and manage several late value inflection points, such as clinical proof-of-concept, commercial proof-of-concept and large deals or roll-ups. While private equity investors have honed these kinds of skills, VCs have not typically built this depth of management experience. One way to access this resource is for VCs to hire former pharma and biotech senior managers to handle these challenges.

**BIOTECH: FLEXIBILITY IS THE KEY**

As with would-be acquirers, flexibility is the key for biotech entrepreneurs seeking to optimise the value of their companies. They need to pursue parallel paths. Given the current trends, the likeliest outcome is a trade sale. These days, a private biotech company is



**Figure 5:** Higher trade sales return for investors. \*Deal size >\$50m  
 Source: Biocentury October 2005, Thomson Financial November 2005, Capital IQ November 2005

about six to seven times more likely to be acquired than to sell shares to investors through an IPO. But although the market for biotech IPOs has declined, companies should not rule it out as an option. This set of conditions has implications for the way biotech companies stage their investments and the key milestones in developing their compounds.

Competition is rising fast: while there are 75 generic and non-generic oncology compounds on the market currently, for example, almost three times this number (213) are in relatively advanced clinical development (Phase II or Phase III, including academic studies). As a consequence, for example, in 2010 there will be at least twice as many non-generic cancer medications on the market as there are today. This significantly raises the bar for launching and even developing new medications, essentially making late-stage oncology development and marketing the domain of big pharma and big biotech.

Moreover, our research suggests that the economics of IPOs are no longer compelling for founders and management teams. Not only has the one-time IPO 'founder premium' of more than 200 per cent over a trade sale declined to just 30 per cent, according to Bain analysis, but the time lines are much longer and the risk of never getting there is very high. As noted, 17 US biotech companies went public in 2005 compared to 151 trade sales, out of a

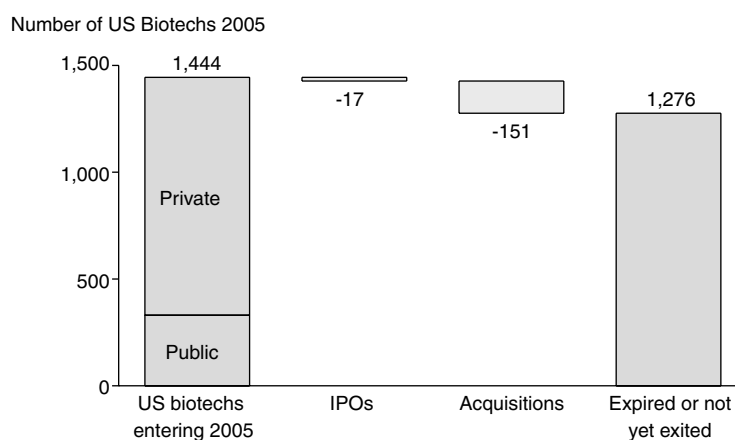
total population of 1,444 at the start of the year (Figure 6).

The example of Nektar is instructive. This listed drug delivery company developed an inhaled insulin product and delivery mechanism (an inhaler), which Pfizer now markets under the brand name Exubera. In the traditional biotech model, a company that had achieved this kind of breakthrough would be on the way to becoming an integrated specialty pharma company.

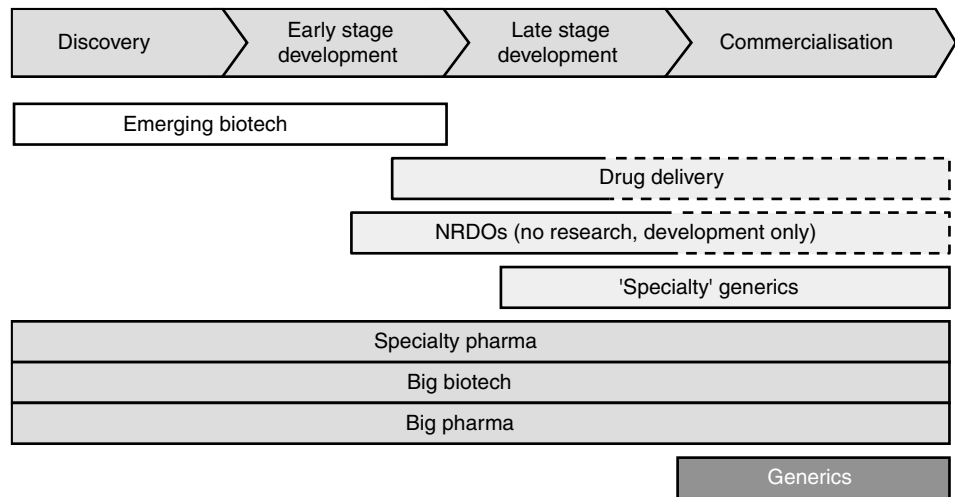
Today, however, several different paths are possible. A company with a promising product can choose to build an early-stage portfolio in anticipation of future trade sale. This option would require a company to double down on its current NRDO (no research, development only) strength in early-stage development to build a strong portfolio. To extract optimal value, the company would need to take the preclinical and Phase I candidate drugs in its pipeline forward to Phase I and Phase II, respectively.

Alternatively, a second option could be to move more aggressively towards commercialisation by taking candidate drugs to Phases II and III. This is a higher-risk strategy, although its potential rewards are also higher (Figure 7).

All paths can eventually lead to the endgame of a fully integrated specialty pharma – but they do not have to. A step-wise approach to this vision allows for flexibility in value maximisation and a possibility to adapt the strategy as you go.



**Figure 6:** In 2005 biotechs were more likely to be acquired than to make an IPO  
 Source: Ernst & Young, Biocentury database, *In Vivo* database



**Figure 7: Potential points of arrival**

Given these possible future paths, our analysis suggests that biotech owners and managers should employ a ‘parallel trade’ approach of preparing the company for both IPO and trade sale – even if the IPO outcome appears far less likely at this point in time.

**CONCLUSION: GET READY TO DEAL**

Clearly, the gathering momentum of trade sales is shifting the expectations of pharma companies, biotech firms and VCs away from the model of the IPO as the best path to realise a start-up’s value. IPOs will remain an option, but their investor base is shrinking and becoming more discriminating. A trade sale is both a likelier outcome, and potentially a more

rewarding one – financially as well as commercially.

While some pharma companies have developed strong deal-making skills and can take advantage of this trend, many big pharma and biotech companies need to get better at doing deals if they are to successfully offset declining in-house drug discovery through licensing and acquisitions. VCs need to become more hands-on with portfolio companies to meet the demand for experience at key deal-making moments. And biotechs themselves would do well to invest time and energy in mapping their options, on the assumption that a trade sale is possible at any time and an IPO opportunity too could arise. Above all, the guiding principle now for biotech firms should be flexibility in pursuing the highest value of their assets.