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Deal-making Metrics – Quantitative Trends in Partnering Transactions

a report by

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The life sciences industry has never seen such an intensity of deal-making, especially that of licensing, than in the past six years. Some of the reasons for this are quite evident: growing pharmaceutical companies have greater pipeline needs, a spate of patent expiries threatens future revenues and research and development (R&D) externalisation has become central to the innovation strategies of cash-rich companies. Product licensing has become an efficient tool in commercialising extended numbers of innovative technologies with limited financial risks, as most of the acquisition expenses of the innovation are dependent on development and commercial success.

The large number of all deals globally (2,724 life science deals in 2006) and the significant uncertainty around new, emerging technologies have created a body of sophisticated business developers who astutely examine several critical metrics before they make decisions on their licensing strategy. These quantitative considerations also facilitate communication with the potential partner and internal stakeholders, ultimately leading to successful deals. This article looks at a few of the most important measures to bear in mind prior to designing deal-making strategies that any expert deal-maker executive should know about.

Facts and Figures

Is it true that deal-making activity is at an all-time high? Is there a bubble around partnering that threatens to burst, making investors and strategic partners apprehensive and leaving innovators without strategic cash? The evidence says that this is not the case. Although there was a steady rise in deal numbers up to 2004, for the past three years we have been experiencing a decline (see *Figure 1*). Fewer companies are making fewer deals: more than 20% fewer now than at the peak in 2004. This certainly points towards a more cautious approach by deal-makers and is not at all the sign of hype.

However, if deal values are examined they do appear to be at an all-time high. More than 28% of all licensing deals are now at least

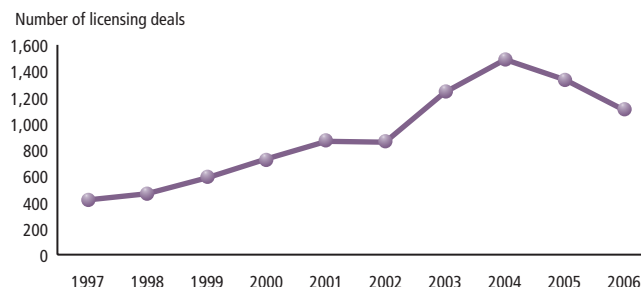


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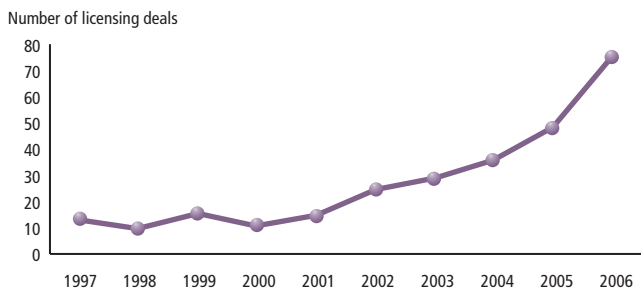
has a PhD from the University of Aberdeen and an MBA from the University of Oxford.

Figure 1: Total Number of Life Sciences Licensing Deals



Source: PharmaDeals®.

Figure 2: Number of Licensing Deals Over US\$100 Million



Source: PharmaDeals®.

US\$100 million in headline value, excluding royalties, and this trend is accelerating (see *Figure 2*). Deeper-pocketed strategic investors, mainly large pharma, have driven up values by competing for predominantly late-stage innovation in the realisation that they need to spend their cash piles on sourcing innovation from outside of their R&D machinery in order to ensure a sustainable pipeline and replenish outgoing products in their portfolios.

There is one measure that is often overlooked by those who claim there is a valuation bubble forming, i.e. that deal values are rising primarily because of the increasingly high demand from licensees: the fact that the pharmaceutical market, including all therapy areas, has grown substantially from US\$240 billion in 1996 to US\$650 billion in 2006. This growth has led to much higher valuations in general for innovative products that promise to meet unmet medical needs.

So, what do these increasing payments comprise? What are their structures? All deal-makers know that the default deal structure is composed of an up-front payment, milestone payments and royalties payable to the licensor.

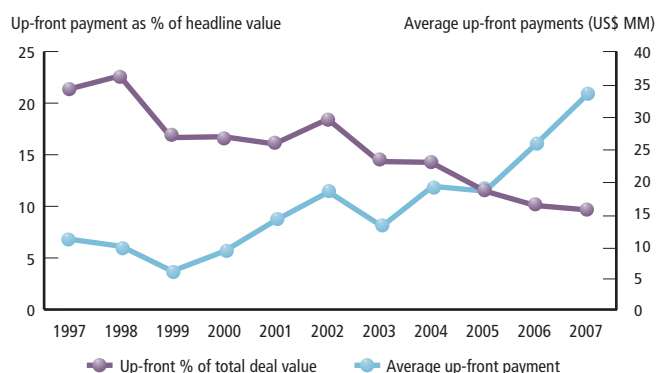
The sum of these payments, less incurred R&D and commercialisation costs (if any) – discounted at an opportunity cost rate – represents the value the licensor and licensee share if the alliance is successful. Traditionally, biotech companies have in general been in great need of up-front cash, which drained value from milestone and royalty payments not least because more financial risk is borne by the licensee in these situations. Recently, however, there has been a trend towards proportionally less up-front cash and more milestone payments, with these payments together representing the total headline value as normally reported in the media. In order to be able to see this trend one needs to analyse the broadest number of deals available in large databases. Anything less – e.g. just simple data samples – would not reveal this trend (see *Figure 3*).

This is clear evidence, therefore, of more risk-sharing between partners: small innovators are willing to wait for their returns until later in the partnership, while increasing numbers of these biotechs aim to co-promote products after launch to support strategic growth needs. An important driver of this phenomenon is the rise of specialist products aimed at narrow therapeutic needs, where clinical trials tend to be smaller than those targeting the primary markets, and where smaller companies consequently have a better chance of funding their trials up to phase III.

Choices, and When to Make Them

A vital question that biotech CEOs and CFOs often ask is: ‘When is the right time to partner to maximise returns on our opportunities?’ While arguably sticking with a compound for longer and delaying partnering takes the project closer to market, with the result that the licensor can potentially have a higher share in the net sales in the form of higher royalties, the risks – both financial and technical – are also higher; this, of course, is also the reason why the product becomes more valuable during its progression through the

Figure 3: Declining Up-front Payments as the Proportion of Total (Up-front plus Milestone) Compared with Rising Actual Payments

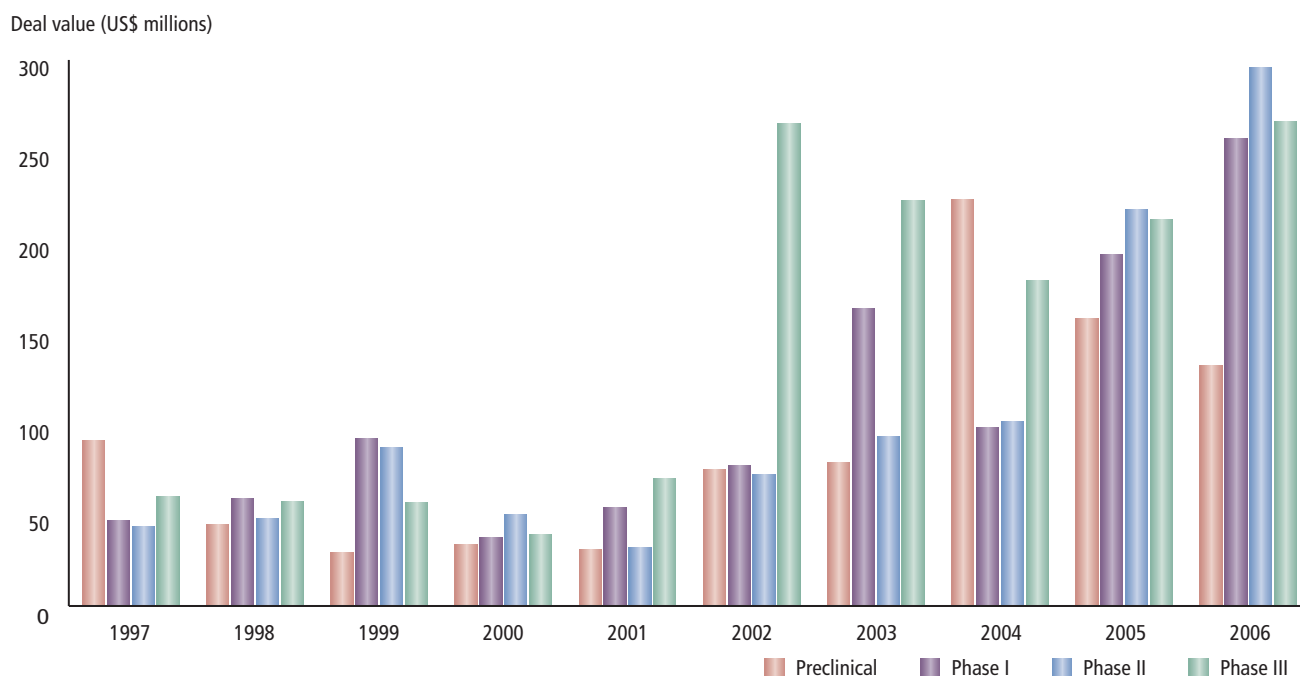


Source: PharmaDeals®.

pipeline. Looking at the deal-making data one can note a surprising fact: phase I and phase II deals can reach valuations as high as those in phase III (see *Figure 4*). Innovators, therefore, may be better off partnering near or right after proof-of-concept rather than taking additional risks alone beyond proof-of-concept, even if the product is a niche speciality compound.

Are certain therapy areas more attractive to deal-makers than others? It does appear so. Anticancer has been the most active area in the past 10 years, heading up the chart in every year. Far behind, but still consistently positioned in second place, is neurology (see *Figure 5*). Whereas biotech companies have developed a great deal of high-tech innovation in oncology, neurology has shown a large number of incremental innovations around chemical entities. The dominance of oncology is

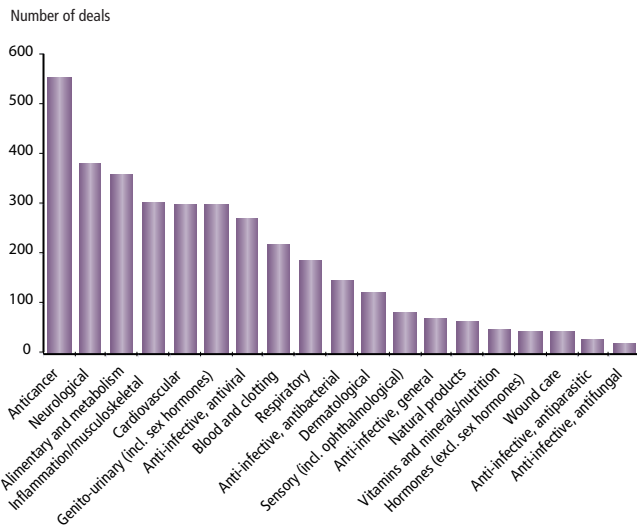
Figure 4: Valuation Shift Towards the Middle of the Research and Development Pipeline



Graphs show tripling of average licensing value of phase I and II products, a 40% drop in preclinical deal values and a recovering but relatively steady valuation of phase III projects. Source: PharmaDeals®.

Deal-making Metrics

Figure 5: Deal-making Activity in 2006 Across the Therapy Areas



Source: PharmaDeals®.

Table 1: Royalty Rate Ranges Attained in Partnering Deals by Licensors in Different Stages of Development

Stage	Common Royalty Range (%)
Discovery	3–5
Lead	4–7
Preclinical	5–9
Phase I	6–15
Phase II	8–20
Phase III	15–35

Source: PharmaVentures industry research.

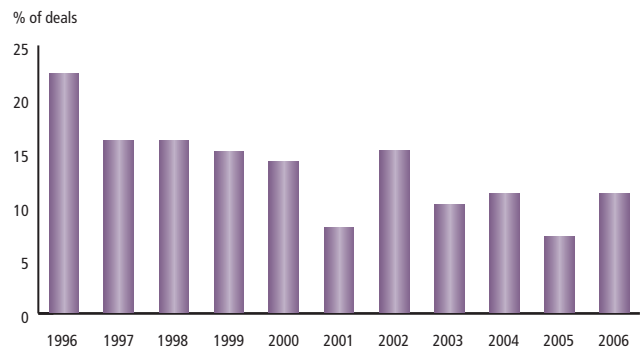
expected to continue in spite of a marked reduction of deal numbers in this area (nearly 20%) since 2004.

The Secret Data

Headline deal structures from various news sources are available to all deal-makers, but what about royalties? An analysis of the extensive PharmaDeals database reveals that barely more than 1% of all deal-related headlines report actual royalty rates, although these may easily represent most of the value generated by the innovation in the market. Companies are rather reluctant to show these figures as they prefer to reserve some uncertainty about the value, as this could help them negotiate increasingly better terms with any potential subsequent partners. In other words, keeping royalty figures to themselves potentially increases their negotiating power. For these reasons a deal-maker is deprived of perhaps the most crucial information in understanding the full financial returns of a commercialisation programme. PharmaVentures has conducted industry research into the royalty rates that innovations at different stages of development can accrue. Based on the market expectations, therefore, Table 1 shows the realistic figures.

However, beyond the innovation stage the size of the royalties is fundamentally influenced by the size of the opportunity. Larger opportunities can drive higher royalties. After all, economies of scale will be higher too and more profits can be made in larger markets. Owing to this

Figure 6: Proportion of Collaborative Partnering Deals with Equity Investment as an Upfront Component of the Deal Structure



Source: PharmaDeals®.

effect, partnering companies frequently agree on tiered royalties whereby the innovator achieves more returns the further the product penetrates into the market, while the partner has to pay higher royalties on net sales only when the actual commercial success is higher. This is a good method for sharing risks and benefits and also encourages the licensee to develop improved economies of scale to proactively increase their profit margin in the face of higher royalties.

Equity Considerations

An important investment consideration for a potential licensee is whether to acquire equity in the target company. This should be an option if the licensor’s technology would be at the core of the licensee’s business strategy and a full acquisition of the licensor is a definitive future option once the collaboration has proved a success. Additionally, when the licensor owns a series of robust innovations or a platform technology that is critical in the market segment, the licensee targeting an acquisition can keep these innovations away from the hands of any competitors. Finally, the investment in the innovator company through equity allows for the diversification of risks across all the licensor’s programmes and can provide returns to the licensee even if the programme that is the subject of the licensing deal fails. Although biological platforms have recently gained high interest for pharma companies, the frequency of equity investments is dropping. As the number of external collaborations is growing, the management of company equity investments becomes increasingly complex and licensees are more careful about where they buy into equity, as shown in Figure 6.

Therefore, in the era of intensive competition and extensive sourcing of external innovation, full, carefully selected corporate acquisitions are more attractive for pharma companies than multiple equity investments when the strategic imperative is high.

Experienced deal-makers know that an in-depth understanding of deal and value drivers is key to successful transactions. Measuring the licensing and acquisition activity of the market around comparable therapeutic segments and technologies provides essential insight into expectations; as a result, strategies can be formed to meet or modify them as well as to gain competitive advantage in attracting and doing the best deals. Deal-making metrics, therefore, occupy a prime position in the toolbox of a well-prepared strategic investor. ■