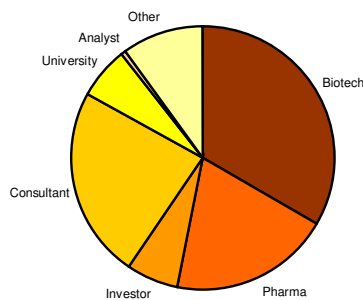


## Avance Survey on Financial Crisis and the Impact on the Biotech/Pharma Sector

In autumn 2008 we have seen an unprecedented economic downturn. A lot of biotech stocks suffered from the crisis although the fundamental data about epidemiology or trial costs and probabilities are not impacted in any way. People will also be sick in 2009 and other years. On the other hand, also biotech and pharma are tied to the financial industry. Therefore a financial crisis doesn't pass without leaving a trace. In November 2008 Avance has conducted a survey about the impact of the financial crisis on the drug development industry. The following pages exhibit the findings.

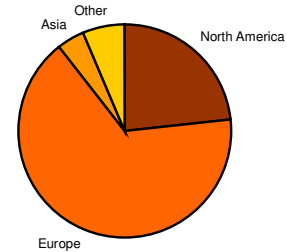
### Survey Participants

142 participants responded to our questions. More than half of the participants work in biotech or pharma, the other stem from organizations or companies working with or serving the biotech and pharma industry (figure1).



**Figure 1: Participants by sector**

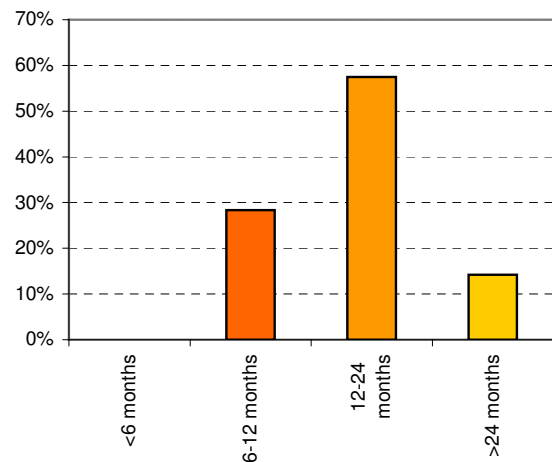
The majority of respondents is from Europe, followed by North America (figure 2).



**Figure 2: Participants by geography**

### Impact of crisis on operations

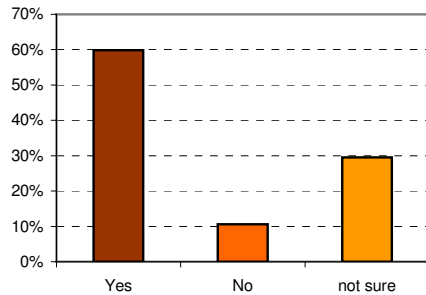
The participants agreed very clearly that the financial crisis will last more than 6 months. Not a single participant thought that the crisis would be over in less than 6 months. The majority estimates that the economy will recover in 12-24 months (figure 3).



**Figure 3: How long will the downturn last?**

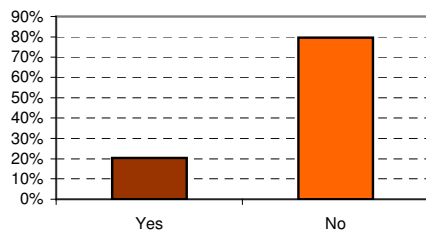
Clearly most respondents thought that their company would be impacted by the crisis. Interestingly respondents from pharma (yes: 18, no: 2, not sure:8) were more concerned than from biotech

(28,6,13). But this might be related to public vs. private status (figure 4).



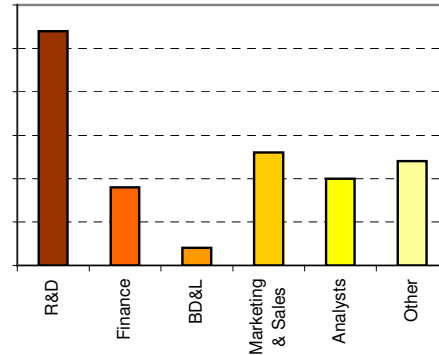
**Figure 4: Will your company be impacted?**

Even if a majority of the respondents considers their company to be affected, only 20% think that workforce will be laid off in their firm (figure 5).



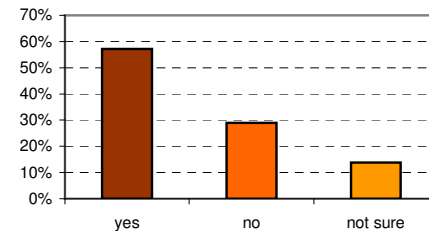
**Figure 5: Will you have to lay off workforce?**

Most respondents expect down-sizing of R&D activities. 50% of biotech participants who expect lay-offs expect them in R&D, followed by marketing (figure 6).



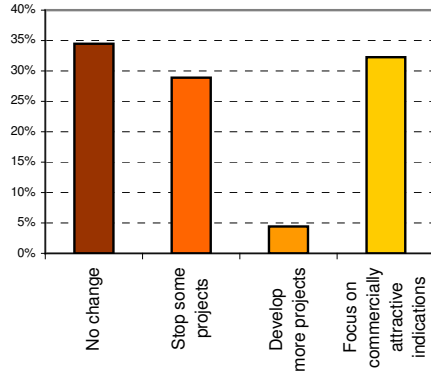
**Figure 6: Who will be laid off?**

Cost cutting seems to be on 2 of 3 companies' agenda. Interestingly, there is no difference between pharma and biotech (figure 7).



**Figure 7: Will you cut costs?**

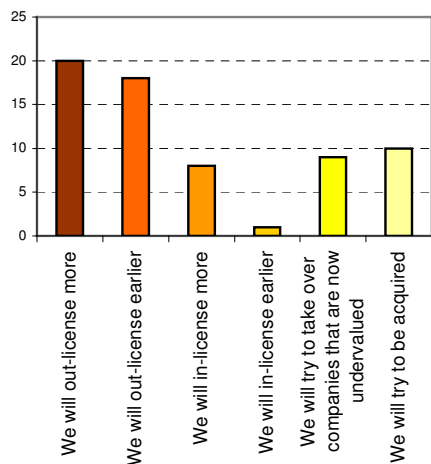
The crisis will result in prioritization of the R&D activities according to 61% of the participants. Only 4 respondents said that they act anti-cyclical and develop more projects. Interestingly no pharma company will develop more projects (figure 8).



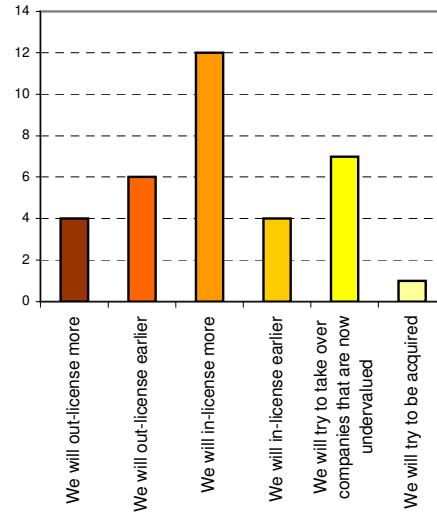
**Figure 8: How will your drug development be affected?**

### Impact of crisis on business development

The current crisis will definitely have an impact on the licensing strategies of the different companies. While biotech tends to focus more on out-licensing and being acquired, pharma expects to in-license more and looks for take-over candidates. It seems as if this is a good match facilitating deals (figures 9 and 10).

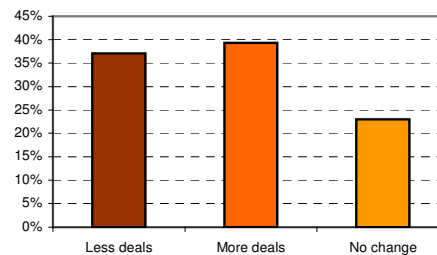


**Figure 9: How will your BD strategy be affected? (Biotech)**



**Figure 10: How will your BD strategy be affected? (Pharma)**

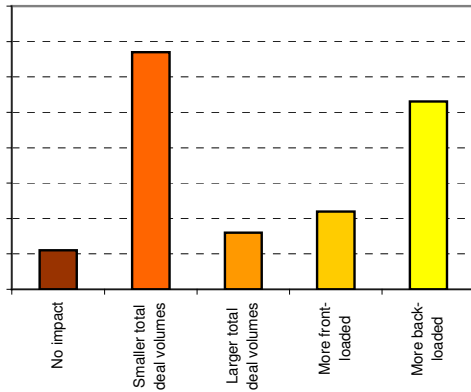
However, the general view of the frequency of upcoming deals is not exactly in line with this. Interestingly, biotech and pharma, the two parties of license deals, both expect more deals. But consultants, investors and the remaining groups expect less deals (figure 11).



**Figure 11: How will the situation affect license deal making?**

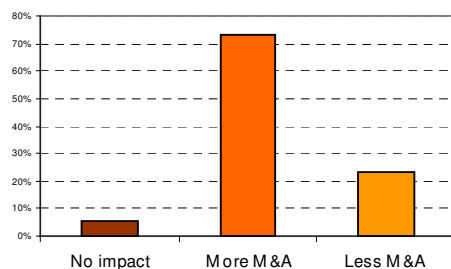
Not only the BD&L activity will be impacted, but according to all groups we should expect smaller deal volumes and more back-loaded deals, an indication that the buy-side might take advantage of its bargaining position

(figure 12).



**Figure 12: How will deal terms evolve?**

There is a general agreement that the current downturn will stimulate M&A activity (figure 13). Discussing with industry executives the upturn in M&A might only be taking place in a couple of months when the financial markets reach the bottom and biotech is running out of cash and has to restrict operations because of dried out funding resources.

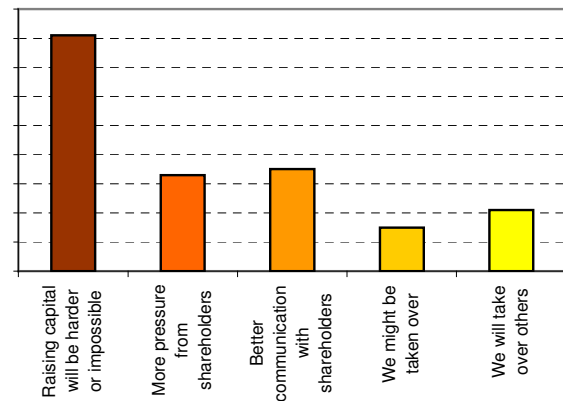


**Figure 13: How will the downturn impact M&A activity?**

### Impact of crisis on financing

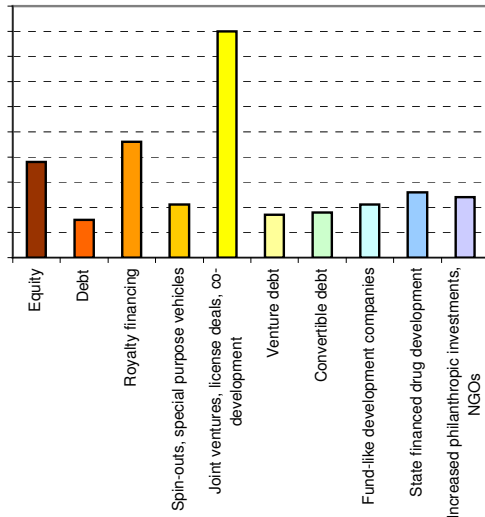
Respondents agree that raising capital will be much more difficult. There is broad consensus about the effects of the crisis, except that no pharma

company expects to become an acquisition target (figure 14).



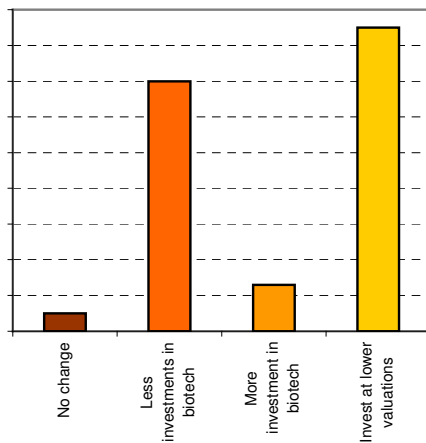
**Figure 14: Effects on financial situation of company.**

Not surprisingly, equity is not seen as the preferred way of funding in the coming months. Joint ventures or license deals will be more dominant, and also royalty financing deals will gain in popularity (figure 15).



**Figure 15: Ways of funding.**

VCs are expected to invest less and at lower valuations. Again, biotech seems to be in the worse negotiation position, like in license deals. This perception is confirmed by the VCs themselves, no-one answered to invest more or even that there will be no change (figure 16).



**Figure 16: Reaction of venture capitalists.**

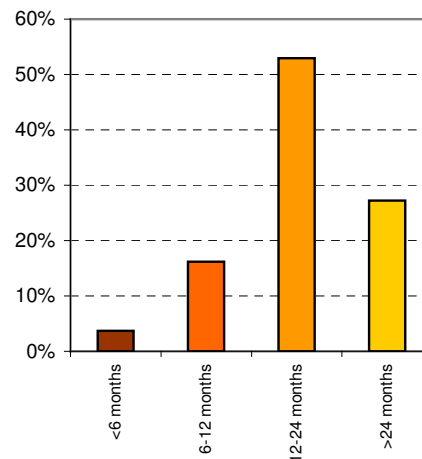
The investment behaviour in public equity is less clear. There is a trend of

shifting from biotech to pharma, but not all agree to that. Such a shift can be explained by the notion that during economic downturns, risky and long-term investments are given up in favour of save bets (figure 17).

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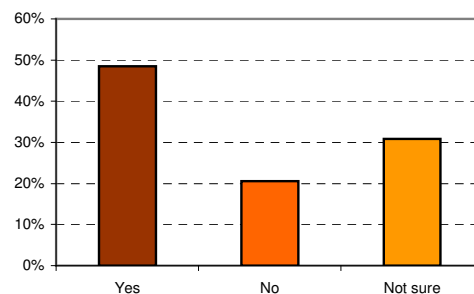
**Figure 17: Reaction of investors in public equity.**

The IPO window is expected to open up in 1 to 2 years again. These answers match pretty well the answers to the question about the estimated length of the financial downturn (figure 18).



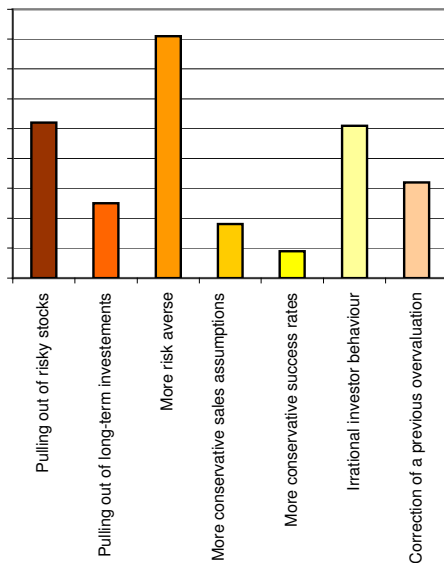
**Figure 18: When will the IPO window open up again?**

Not surprisingly a big majority over all groups thinks that biotech stocks are currently undervalued (figure 19).



### Figure 19: Are biotech stocks undervalued?

The reasons for this undervaluation are mainly seen in market dynamics, i.e. reallocation of capital and a generally increased risk aversion. This is in line with the initial remark that the underlying fundamental data is not impacted by the financial crisis. Only the discount rate, containing the risk premium, is really impacted by the crisis (figure 20).

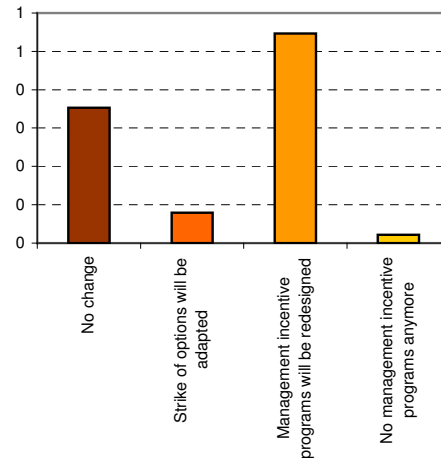


**Figure 20: Why have most biotech stocks lost in value?**

### Management incentive programs

Finally, we have asked whether there will be a change of the management incentive programs as currently discussed in the banking sector. 2 out of 3 investors responded that there would be change in such programs, and also a slight majority of biotech participants. But a simple adjustment of the strike

price in option programs, as we have seen sometimes in the 2002 downturn, does not seem to be solution (figure 21).



**Figure 21: Management incentive programs.**

### Discussion

The financial crisis will undoubtedly impact the biotech and pharma sector. Lay-offs, reduction of R&D activities, or firms stopping operations due to a lack of financing will be the results. Nevertheless, the consensus that the crisis will not last more than 12-24 months should make all of us optimistic that those companies having still enough cash will get away with a black eye. We can also expect a long-lasting change in the financing in favour of long term, risk adverse financing models, license contracts, or joint ventures. The current situation will be a big challenge to all those companies that are not funded for the next 24 months. But it might also be a chance for the sector to move from quantity to more quality.