Financing medical research

Disease or cure?

NEW YORK

How securitisation may help your health

IT IS a social good and a financial disaster. An era of remarkable medical breakthroughs has coincided with a period of collapsing returns from listed pharmaceutical firms and from venture-capital funds investing in medical research. The share prices of firms such as Pfizer and Merck trade at half their levels in 2000; venture funding has all but evaporated.

The reasons are manifold. A host of new therapies based on genetic markers have smaller potential markets than old-fashioned treatments but remain very costly to develop. That reinforces other sources of uncertainty, like the path of health-care reform in America. The resulting shortfall in available funding for the period between basic research (often government-funded) and the final approval of new treatments is sometimes known as the "valley of death".

An answer to this funding gap was outlined in a paper published last year in *Nature Biotechnology* by Jose-Maria Fernandez and Andrew Lo of MIT's Sloan School of Management and Roger Stein of Moody's, a ratings agency. The paper notes the emergence of three investment vehicles—Royalty Pharma, DRI Capital and Cowen Healthcare—that invest in the royalties of approved drugs, thereby providing capital to pharmaceutical companies in exchange for a return that has similarities to a diversified debt portfolio.

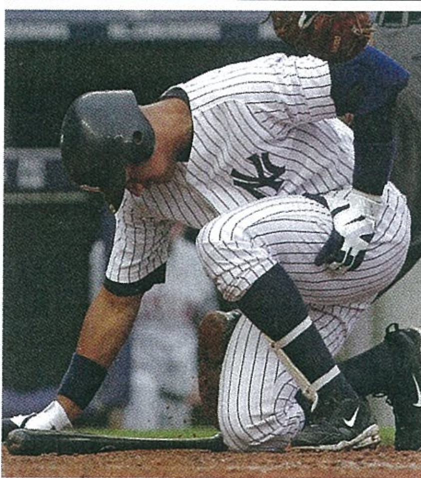
Taking these firms as a starting-point, the paper suggests a far broader approach that uses some of the techniques that were at the centre of the financial crisis. The authors propose creating a series of "megafunds" of up to $30 billion, financed by securitised debt and equity. Unlike a company, a megafund would have no operating subsidiary. Unlike a venture-capital fund, it would not have a short cash-out period. Unlike a mutual fund, it would hold illiquid investments in a range of private companies, products, patents, licences, royalties—anything in medical research that may eventually produce a cash flow.

Although the odds of any single medical innovation succeeding are low, the chance that one of them will is high. Scale and diversity should minimise risks. The authors are forecasting nominal returns of 5-8% for the debtholders and 8.9-11.4% for the equity holders. These numbers are broadly in line with average equity and debt returns, and very different from the usual uneven distribution of investments in medical research between a few huge successes and many duds.

Since the paper's publication in October, the idea of specially constructed megafunds has attracted the interest of regulators, scientists, pharmaceutical firms and venture capitalists. The authors have received lots of suggestions: proposed refinements include the use of credit-default swaps and government guarantees to encourage investors. They have also posted a piece of open-source simulation software so that people can model the fund's risks.

Getting the first fund off the ground will nonetheless be an enormous task. Thanks to the crisis, a combination of securitisation, credit-default swaps and government guarantees sounds like a recipe for disaster. But unlike the horribly botched financing of the boom-era American housing market, where all of these financial techniques were used, no one is suggesting this set of underlying assets is safe. ■

* "Commercialising biomedical research through securitisation techniques". www.argentumlux.org/home-42.htm



The economics of sports insurance

Claim game

NEW YORK

The calculations behind the insurance of athletes

WHEN Alex Rodríguez, baseball's highest-paid player, announced last month that he needed hip surgery, it wasn't just the New York Yankees that groaned. The biggest share of the resulting financial pain may well be felt by Team Scotti, the lead insurer on his ten-year, $275m contract. If Mr Rodríguez can recover by midsummer, the firm will escape unharmed since most policies do not pay out until a player has been sidelined for at least a few months. But if his injury drags on, it could make it harder for teams to get coverage—and thus harder for athletes to extract similarly lucrative contracts in the future.

As salaries in professional sports have soared over the past few decades, so has the price tag associated with the risks inherent in such strenuous physical activity. Athletes in sports like golf and tennis often buy their own insurance, though those with recurring conditions have trouble getting coverage. But sports teams that offer guaranteed contracts face huge losses if stars are injured, even only temporarily. As a result, the economics of the business are now shaped by insurance markets just as they are by TV contracts or ticket sales.

To secure affordable rates for temporary coverage, North America's National Basketball Association (NBA) and National Hockey League (NHL) set up leaguewide insurance plans. By pooling risk, insurers are able to project claims better and can be confident they are not just covering the most injury-prone. The NBA's policy, run by the BWD Group, costs a modest 4% of salaries, though it is obligatory only for a club's top five players and has limited exclusions for pre-existing conditions.

Such a scheme is possible only in a highly regulated system like the NBA's, which caps individual contracts and requires teams to spend at least $49m a year on salaries. In contrast, stars in sports like European football can earn far more than any single insurer is willing to cover. Moreover, clubs with small fan bases tend to avoid big contracts, and thus have no desire to join a leaguewide plan. That forces teams to rely on one-off policies, which charge higher premiums, are riddled with exclusions and rarely last over three years.

One big risk for insurers is moral hazard. Players insured against a career-ending injury may have little incentive to make a comeback if they have already received a payout; clubs with temporary disability policies have an incentive to keep a player sidelined until he is fully healthy. Jeff Moorad, a former boss of baseball's San Diego Padres, recalls a debate over Chris Young, a pitcher recovering from a shoulder injury in 2010. "As a matter of principle, we didn't stand in his way, and he came back and contributed," he says. "But the accounting department much preferred that he stay on the disabled list."

The bigger hazard may be underestimating the chances of pricey athletes getting hurt. According to Jonathan Thomas, an underwriter at the Watkins syndicate at Lloyd's of London, investors disillusioned by the 2008 financial crisis have flocked into insurance, causing too much capital to chase too few policies. "Multi-year policies and reducing rates are a pretty lethal cocktail," he says. "The coverage [teams] can get, given the largesse that they give to young men with comparatively little investigation, is extraordinary." ■