lumiracapital

life sciences quarterly newsletter

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public markets

During the second quarter, the public equity market for biopharmaceutical companies, as represented by the Nasdaq Biotechnology Index (NBI), continued its positive 5-year growth trend, outperforming the broader equity indices, confirming that the fundamentals in the life sciences industry remain strong. The NBI was up 4.1% in Q2 and down 5.2% year-to-date, outperforming the Nasdaq Composite Index (up 2.3% in Q2, down 13.5 % YTD) and the S&P 500 (down 2.8% in Q2, down 13.2% YTD). As a proxy for the medical device industry, the iShares Dow Jones US Medical Devices exchange-traded fund (NYSE:IHI) was up 0.4% in Q2, and down 7.0% YTD.

As we continue to assess what is driving and what will in the future continue to strengthen the valuation fundamentals of biotech performance, it is becoming increasingly clear to us that the long anticipated emergence of a “division of labour within the pharmaceutical industry” is starting to become more

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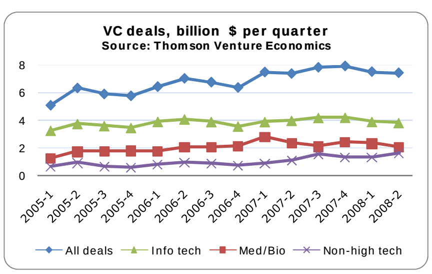
venture capital

It appears that North American venture funds are on track to invest roughly $30 billion in 2008 across all industry sectors. Approximately $7.4 billion was invested in 991 deals during Q2 for a total of 14.9 billion year to date.

In the life sciences segment, the first half of 2008 saw a decline of roughly 20% from the same period in 2007. (Thomson Venture Economics) Q2 saw 223 deals for a total value of $2.0 billion, a 12% decline from Q1. It appears that VC’s are investing in smaller deals with no deal larger that $50 million and only one deal for $50 million being completed in 2008 compared with 20 deals with a combined value of $1.24 billion in 2007.



the road to liquidity

Well we certainly could not have said it any better than the National Venture Capital Association (NVCA) which on July 1, 2008, declared that the ***“IPO Drought Creates Capital Market Crisis for Start-Up Community”*** citing the fact that for the first time since 1978, there were no venture-backed Initial Public Offerings (IPOs) in the second quarter of 2008 according to an exit poll they conducted with Thomson Reuters and 660 venture capital firms. The year-to-date data aren't much better with only 5 venture-backed companies going public (**one being Lumira Capital portfolio company MAKO Surgical’s successful NASDAQ IPO underwritten by Morgan**

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quarterly transaction review

This month the deal that caught our attention was the ***acquisition of Sirtris Pharmaceuticals by GlaxoSmithKline***. Among a number of deals during the second quarter that illustrated the ongoing reshaping of the pharma and life science industries, Sirtris Pharmaceuticals was a solid exit for a venture-backed drug discovery company. Sirtris was founded in 2004 around new science relating to a class of proteins called sirtuins, which have numerous roles in the body and appear related to, among other things, longevity and weight loss. Sir-

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in canada

Sometimes you just can’t believe everything you read (or at least you shouldn’t take it as gospel), and it struck us that the data for life sciences venture investing in Q1 in Canada (31 deals and $54 million invested as reported by the CVCA and Thomson) simply didn’t add up when we looked at our proprietary deal flow, our “over the counter” deal flow, the deals that we knew syndicate partners had completed, and the insights that we gained from dozens of conversations with life sciences CEOs and other stakeholders in the space.

In deploying a slightly different lens (effectively including all transactions regardless of type (debt, equity, pipe, etc.), that included an investor we viewed as a primarily being a venture capital investor, the data looked a bit different and included far more transactions and a whole lot more insight on the core life sciences funding environment in the country. As an example

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partner profile

Gerry Brunk

Gerry focuses on investments in the therapeutics and medical device sectors, where he has been active supporting companies in the infectious disease, orthopedics, cardiology, and metabolic disorder fields. With over 17 years of investment, consulting and entrepreneurial experience, he has helped build health care and life science companies at all stages of development.

Gerry joined Lumira Capital in 2002 to establish its first U.S. office in Cambridge, Massachusetts. Prior to that he was an entrepreneur in the life science sector, founding and serving in a variety of management and board capacities at several venture capital-funded companies. Before this, Gerry was an engagement manager in the global health care practice of The Boston Consulting Group, where he advised pharmaceutical and biotechnology firms on strategic issues involving portfolio management, product licensing, R&D productivity, clinical trial design, new product introductions, acquisitions and post-merger integration. Gerry began his career as a member of the investment banking group of Credit Suisse First Boston in New York where his clients included public and private health care companies.

Gerry holds an MBA from Stanford University Graduate School of Business and graduated Phi Beta Kappa with a BA from the University of Virginia, where he studied biology and economics. His current and past board roles and investment responsibilities include: Archemix, Cardiac Dimensions, MAKO Surgical (Nasdaq: MAKO), NephroGenex, Pharmasset (Nasdaq: VRUS) and Targanta Therapeutics (Nasdaq: TARG).

"Outside of work I enjoy restoring my 1960's convertible hotrod, except when those "restorations" take place broken down in the rain on the side of a country road. From my recent reading list I would highly recommend 'This Is Your Brain on Music: The Science of a Human Obsession' by former musician, recording engineer and now McGill University neuroscientist Daniel Levitin. Music affects us deeply and Levitin beautifully describes the biology of how this happens without taking anything away from our appreciation of the art."

public markets

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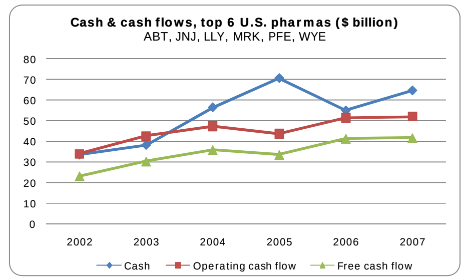
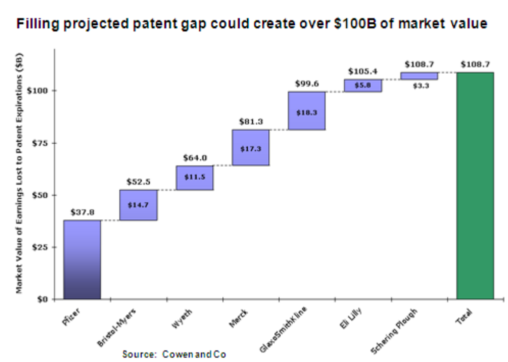
and more evident. "Big Pharma", the traditional innovators, are being transformed into manufacturers and marketers of drugs, and buyers of knowledge, technology, and products from entrepreneurial, venture-backed companies.



Source: Lumira Capital

As buyers and partners, Big Pharma are continuing to aggressively pursue relationships, for the most part with private venture-backed companies and previously private venture-backed companies that have completed IPOs but which typically continue to have a substantial percentage of their shares held by their previous venture backers. A defining feature of this dynamic is that Big Pharma have large and growing pools of cash to finance this transformation. In 2007 the value of all disclosed M&A activity for North American venture-backed med/bio companies was approximately $5.5 billion (Thomson, NVCA). This pales in contrast to ***the cash resources of just the top six U.S. pharmaceutical companies which ended 2007 with $65 billion in cash on their balance sheets, and $42 billion of free cash flow.*** As such, the total M&A activity for 2007 represented just 8.5% of the big six's cash & equivalents, and just 13% of their free cash flow.



Equally important, it is widely recognized that these companies have a compelling motivation to use that cash to address the projected earnings gap. This gap, which is projected to equate to over $100 billion of market capitalization, should occur by 2012 as key products come off patent. While stock buy-backs and dividends are both vehicles for delivering value to shareholders as revenues and earnings begin to erode, neither addresses the core

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portfolio company

Cervelo Pharmaceuticals

Cervelo Pharmaceuticals is a start-up neurology specialty pharmaceutical company founded in 2006. The company is focused on the in-licensing and development of clinical-stage neurology small molecule drug candidates. It currently has exclusive worldwide rights for all indications to a first-in-class small molecule drug candidate, CPL7075, which is an oral, CB1/CB2 cannabinoid receptor agonist, with analgesic and anti-inflammatory properties targeted at neuropathic and inflammatory pain that may potentially represent a safer, more tolerable, and novel efficacious treatment.

The company is led by its Founder, President and CEO, Anthony J. Giovinazzo, who previously was the CEO of Cita NeuroPharmaceuticals Ltd. and a VP at Lumira Capital's predecessor firm. While at Cita, he in-licensed Phase II and III assets from a European pharmaceutical company and was able to successfully sell the Company in 2005 to a public UK-based company. In addition to Anthony, the executive team at Cervelo is highly experienced in drug development (particularly with expertise acquired at large pharmaceutical companies) and includes: Dr. Marc de Somer (Chief Medical Officer and EVP R&D; Sandoz and Novartis); David B. Hedden (VP Product Development; Searle and Pfizer); and David Jacobs (VP Clinical Development; J&J, NPS, and Progenics).

Lumira Capital was a major investor, and the largest Canadian-based investor, in Cervelo's 2007 Series A financing. Since our initial investment, the company has made significant progress in its studies to complete manufacturing and regulatory submissions for the evaluation of CPL7075 in post-herpetic neuralgia patients. The company has also assembled a world-class Clinical Advisory Board that includes clinicians and scientists with extensive medical and regulatory expertise in the fields of pain and neurology.

road to liquidity

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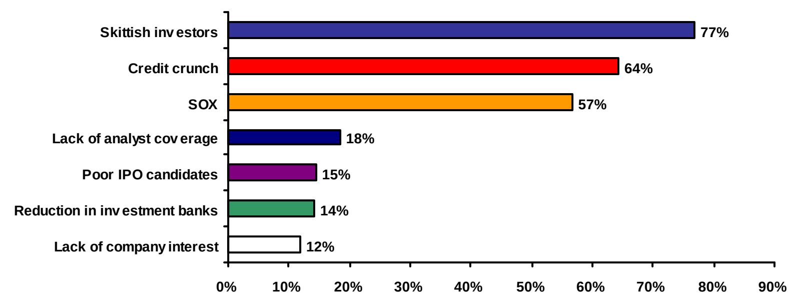
Stanley and JP Morgan). This number is a fraction of the 43 companies that went public in the first half of 2007. According to Mark Heesen, president of the NVCA, "We need to put regulators, legislators, presidential candidates, and the private sector on notice that this situation represents a serious problem that will have long reaching economic implications if not addressed. We view this quarter as the 'the canary in the coal mine'."

According to the NVCA survey, the seven factors contributing to this current IPO drought include:



Why all the hue and cry?- it's simple - ***companies that were once venture-backed but are now public account for 10.3 million jobs and 18 percent of U.S. GDP, according to a 2007 Global Insight Report.***

Even the M&A front was slow in H1 2008, down some 28% versus the comparable period in 2007 (five venture-backed life sciences companies were acquired in the quarter—Thomson). All was not gloom and doom, however, as Q2 was actually relatively busy for the broader medical and life science sector. A top-level overview shows that during the second quarter, $47.6 billion changed hands in 380 transactions (M&A deals, financings, and alliances) across the pharma, biotech, and medtech industries. This was substantially higher than the first quarter's 426 deals worth $16 billion. This strong performance and evidence of the strong market for strategic acquisitions by big pharmaceutical and medtech companies was highlighted by five large acquisitions (total transaction value $34 billion) which were announced in the quarter.

While the short term data for venture backed M&A might be a little discouraging, the long term data is pretty clear. **M&A is becoming an increasingly important liquidity option for venture-backed companies.** As investors we need to clearly understand this and ensure that our companies have clearly defined and well articulated strategies to ensure that partnerships, collaborations, alliances and potential outright acquisitions are not serendipitous processes (although a good serendipitous event is always well appreciated), but rather a core part of the fabric upon which a company is built.

ceo profile

Nicholas C. Nicolaides, Ph.D. is the President, Chief Executive Officer and co-founder of Morphotek Inc., a former Lumira Capital portfolio company specializing in the development of protein and antibody products through the use of a proprietary gene evolution technology. Morphotek was recently acquired by Eisai, Co. Ltd. of Japan for US$325MM, and Dr. Nicolaides continues to manage Morphotek as an independent subsidiary and serves as a Vice President for Eisai's Global Biologics Division.

"A fundamental and key driver for our investment in Morphotek was the strength of its management, and in particular the leadership provided by Dr. Nicolaides. The moment I first met Nick I realized we had found an exemplary CEO", remarked Beni Rovinski, who led the Morphotek investment at Lumira Capital. Beni commented further that, in addition to the platform technology and encouraging clinical data, it was also "Nick's intelligence, approachability, broad scientific knowledge, and very clear strategic vision that strongly impacted our investment decision".

As a scientific founder and business executive, Dr. Nicolaides successfully raised money for Morphotek from a first tier group of venture capitalists and assembled a very experienced senior team. As the company was courted by potential acquirers those personal and team attributes played a significant role in the negotiations and were important drivers for Eisai's desire to acquire Morphotek, in addition to its platform to produce biologics.

Prior to founding Morphotek, Dr. Nicolaides was the Director of Research at Magainin Pharmaceuticals Inc. where his research focused on the development of therapeutic proteins and antibodies to treat respiratory diseases. He is a molecular geneticist who has authored over 50 peer-reviewed scientific papers on the molecular and genetic basis of cancer and respiratory diseases and holds over 30 issued patents. He received a B.S. in Biology from St. Joseph's University, Philadelphia, PA, a Ph.D. in genetics from Thomas Jefferson University, Philadelphia, PA and a Fellowship in oncology from Johns Hopkins University, Baltimore, MD. While at Johns Hopkins, his research resulted in the discovery of the genetic cause of one of the most common forms of inherited cancer and the development of Morphotek's platform technology called *morphogenics*. In 2007, he was recognized by R&D Directions as one of the Top 20 Most Notable People in Research and Development and was awarded Ernst & Young's 2007 Entrepreneur of the Year for the Greater Philadelphia Region.

The partners at Lumira Capital continue to work and enjoy their fruitful relationships with Dr. Nicolaides. When asked to sum-up his overall assessment of Dr. Nicolaides as a CEO, Beni stated that "Nick's strong leadership and ability to rapidly recognize and focus on the key business issues, as well as his constructive interactions with the Board and the shareholders, is what makes him a great CEO to work with".

public markets

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issue - these companies' need to add new products and revenue streams into their existing sales and marketing infrastructures in order to maintain and grow their enterprise value. Only innovation, whether in-house or acquired, will fill that gap. While this analysis gives a flavor of the economic climate in the sector, it is only the tip of the iceberg as it materially under-represents the total cash available since the pool of acquiring companies is substantially larger than just the big six in the US, and includes large European and Japanese companies as well as some smaller players around the globe.

One example of this new paradigm is Pfizer Inc.'s Biotherapeutics and Bioinnovation Center which it launched in October of 2007 as a strategy for playing catch-up in the biologics space. **(this was led by former Lumira Capital portfolio company Renovis CEO, Dr. Corey Goodman)** Since then, it has made a series of deals to build out this model with the objective of successfully marrying the nimbleness and entrepreneurialism of biotech with the scale and resources of Big Pharma. In April and June, Pfizer entered into three deals at this interface: the first with a consortium of four universities and Entelos Inc., another with three California universities, and a third with stem cell company EyeCyte Inc. Since 2005, Pfizer has executed 22 transactions in the biotherapeutics space (acquisitions, licenses, and collaborations), and next it will seek to apply similar strategies for its vaccines and regenerative medicines efforts (biocentury, June 2008).

in canada

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we have constantly heard and frankly come to accept that there is virtually no angel life sciences network in Canada. The data tell a slightly different story in Q1 as angels led or participated in the financing of 12 private life sciences companies. Were these financings generally small? Yes, but that's ok, at least it represents an active continuum of capital.

So to Q2. Well, our data shows that VCs invested about $140 million in 15 life sciences companies in the quarter, with the amount invested split 1:2 between public market and private company transactions. On the private side, key transactions included financings for Gemin X, NOVX Systems Inc., and Groupe Unipex, and on the public side notable deals included CryoCath Technologies Inc. and Adaltis Inc. The average transaction size was similar for both private and public venture backed deals coming in at $9.7 million and $8.7 million, respectively.

Interestingly, remember those angels we spoke about? Well they led 7 private company investments in the sector at an average deal size of $1.7 million, with the largest round coming in at $3.4 million.

quarterly transaction review

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tris had an early-stage product pipeline, with much of the company's value derived from a drug candidate that had not yet reached the clinical development stage. As a private company Sirtris raised $103 million in venture financing and a further $62 million when it completed an IPO in May of 2007. The valuation at the time of the IPO was $287 million. In May 2008, GlaxoSmithKline (GSK) acquired the company for $725mm or $22.50 per share. This was an 84% premium over Sirtris's market price at the time and generated returns on venture investments which ranged from 8.6x for the Series A investors to 5.4x for Series B investors and 3.8x for Series C investors (return estimates by Biocentury). Overall, Sirtris returned 4.4x the invested capital which was very comparable to the returns performance Lumira Capital realized on our recent exit from Morphotek.

lumiracapital

Built on a foundation that leverages 18 years of experience as one of North America's leading healthcare and life science venture capital investors, Lumira Capital is the successor business to MDS Capital. During the past five years Lumira Capital's partners have helped build over 50 companies and the team currently manages over $350 million of capital in three funds. Recent successes include the acquisitions of portfolio companies such as Morphotek, (by Eisai Co.), and Corus Pharma (by Gilead Sciences) as well as the IPOs of Alexza Pharmaceuticals, Replidyne, Pharmasset and MAKO Surgical. Other portfolio companies and recent investments include Argos Therapeutics, Archemix, Cervelo, Ception Therapeutics, and Spinal Kinetics. Lumira Capital invests primarily in North American emerging-stage biopharmaceutical and medical device companies. Its current portfolio of companies is split approximately 30% medical technology and 70% drug discovery and development companies. The majority of Lumira Capital's portfolio companies are located in the U.S. and the Company has offices in Canada and the U.S. **www.lumiracapital.com**