Reverse Merger into a Listed Operating Company

December 2016
• U.S. initial public offerings down 65% compared to 2015, lowest dollars raised since 2009; number of listings down 51%
• IPOs backed by VCs and PE firms account for just over 50% of year-to-date activity, lowest percentage since financial crisis
• There have been some signs of improvement over the last three to four weeks. However, IPOs are still down. In 2014, there were 116 healthcare IPOs, 80 in 2015, and 35 year-to-date in 2016
• Healthcare has not recovered as much as the broader market, as biotech stocks continue to weigh on the sector
• There is a significant public healthcare IPO backlog; likely, the backlog numbers are even more significant if confidential submissions are included
Within the biotech sector, the success of most IPOs has been driven by strong insider participation and a majority of the biotech IPO issuers have completed a pre-IPO crossover financing prior to the IPO.

William Blair statistics report that 28 of the last 40 biopharma IPOs completed a pre-IPO crossover financing within 365 days of the IPO.

However, many of the biotech companies that secured pre-IPO financing from dedicated biotech sector investors and/or crossover funds have yet to go public, creating a backlog for pre-IPO private placements. Some funds have reached their maximum thresholds in investments in private placements (restricted securities).

Pre-IPO financing may not be available or may not be available on attractive terms.
In light of these conditions, a number of biotech IPO candidates have begun considering other alternatives, including a merger with and into an already public life science company that raised public capital to fund its clinical programs, but which has failed trials.

Instead of liquidating and distributing its capital to stockholders, these companies may be interested in considering reverse merger opportunities.

An issuer that has already commenced its IPO preparations but has found that its IPO has been delayed may consider a reverse merger into the already public company.

Unlike the “reverse mergers” into shell companies, which raise a number of concerns, a reverse merger into an operating company can be a worthwhile alternative.
Historically, some companies considered “backdoor IPOs,” which included reverse mergers into public shell companies.

Reverse mergers into public shell companies raise a number of very significant concerns (not raised by merging into an operating company), including:

- Most public shell companies were formed by sponsors or promoters that have undisclosed financial interests.
- Shell companies often have contingent liabilities.
- Shell companies usually are listed only on the OTCBB, which is of limited utility.
Shell companies are subject to very onerous requirements under the US Securities Act, which have the result of creating a “stigma” for shell companies. For example, a “shell company” is generally limited in its use of certain communications (it cannot use free writing prospectuses), limited in its ability to rely on Rule 144, etc.

A merger into a public biotech company can be distinguished from a reverse merger into a shell company. For example:

- The public biotech company will have undertaken a traditional IPO and will have been an SEC reporting company. It would not be considered a “shell company” for SEC purposes
• The public biotech company will have a class of securities listed on the Nasdaq (not OTCBB), which will make it easier for the combined company’s securities to be admitted to trading on the Nasdaq
• Given that the public biotech company is already an SEC reporting company, there will be greater transparency and it will be easier to conduct thorough due diligence
• Market perception: although there are a limited number of reverse mergers into public biotech companies, the market perception of such transactions is different from the negative perceptions of reverse mergers into public shell companies
In light of the difficulties associated with completing a pre-IPO private placement and the IPO backlog, a merger with and into a public biotech company can:

- Provide access to capital (the public company will have some amount of cash on its balance sheet)
- Provide a listed stock, which will: (i) serve as acquisition currency that can be used for in-licensing new compounds; (ii) be useful for stock-based compensation awards to attract and retain employees; (iii) permit the company to engage in follow-on offerings (whether structured as PIPE transactions or as public shelf takedowns); and (iv) attract sector investors that cannot make new investments in private placements
- Be completed on terms that may be less dilutive than the terms on which financing would be available
In connection with considering a merger into a public biotech company, factors to consider include:

- Incurrence of transaction costs (production of either an information statement or a proxy/prospectus, which will require pro forma financials and other SEC disclosures), although these costs should be weighed against the costs associated with an IPO and may be minimized in the event that the private company already has SEC disclosures prepared.
- Company will have to factor in the costs of being a public company and will have to be prepared to address public reporting requirements immediately upon the consummation of the transaction.
• “Change of control” severance or termination payments to senior executives of the public biotech company (should be built into deal)
• New public company will not have gone through a traditional IPO and, therefore, will not have the investment bank sponsorship that follows an IPO (research coverage, market making, etc.) and the stock may be volatile as a result
• Governance: although it is generally the case that the merged company will control the majority of the board, usually the legacy company will want one to two directors (out of a seven member board)
• Distraction: depending on whether the legacy company has any remaining viable clinical programs, management of the merged company may be distracted from concentrating solely on the merged company’s product pipeline
• Combined company may need to raise additional capital. Most of the transactions that have been completed to date have been structured so that there is some new capital from insiders made at closing; a concurrent public offering or a PIPE transaction
• Required corporate consents/approvals: merger would be considered a “change of control” thereby triggering provisions change of control provisions in licensing and other operating agreements
Generally two alternatives:

- Merger with and into existing public company; existing public company will issue stock in a private placement transaction to private company holders in exchange for their existing private company stock; combined company will change its name; and application will be made to Nasdaq (Nasdaq generally requires new listing). This alternative would require a proxy or information statement to be prepared and filed by the existing public company and the existing public company will seek shareholder approval for the transaction. An information statement may be less time-consuming to produce than an S-4 proxy/prospectus.

- Newco subsidiary is formed and merged with and into existing public company; newco subsidiary files a proxy/prospectus on Form S-4 and securities are issued in the merger transaction pursuant to the proxy/prospectus. Existing public company will seek shareholder approval for the transaction.
### Precedent transactions

<table>
<thead>
<tr>
<th>Announce Date</th>
<th>Effective Merger Date</th>
<th>Acquiror (Public)</th>
<th>Target (Private)</th>
<th>Acquiror Cash</th>
<th>Acquiror Value</th>
<th>% Premium to Acquiror Cash</th>
<th>Acquiror % Owned</th>
<th>Target Value</th>
<th>Combined Value</th>
<th>Current Mkt. Cap</th>
<th>% Δ from Comb. Value</th>
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</thead>
<tbody>
<tr>
<td>05/24/16</td>
<td>N/A</td>
<td>Biodel</td>
<td>Altheo</td>
<td>$21.5</td>
<td>$25.0</td>
<td>16.0%</td>
<td>33.5%</td>
<td>$30.0</td>
<td>$34.9</td>
<td>$27.7</td>
<td>(63.0)%</td>
</tr>
<tr>
<td>04/14/16</td>
<td>07/22/16</td>
<td>Synta</td>
<td>Madrigal</td>
<td>43.0</td>
<td>33.6</td>
<td>(22.0)%</td>
<td>36.0%</td>
<td>59.6</td>
<td>93.2</td>
<td>143.7</td>
<td>54.2%</td>
</tr>
<tr>
<td>12/15/15</td>
<td>01/08/16</td>
<td>Restogenex</td>
<td>Diffusion</td>
<td>7.8</td>
<td>21.6</td>
<td>176.9%</td>
<td>17.0%</td>
<td>105.5</td>
<td>127.1</td>
<td>99.2</td>
<td>(21.9)%</td>
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<tr>
<td>12/05/15</td>
<td>01/20/16</td>
<td>CytoS</td>
<td>Kuros</td>
<td>17.0</td>
<td>43.2</td>
<td>154.1%</td>
<td>24.1%</td>
<td>136.1</td>
<td>179.3</td>
<td>108.5</td>
<td>(39.4)%</td>
</tr>
<tr>
<td>11/18/15</td>
<td>03/22/16</td>
<td>Celladon</td>
<td>Eiger</td>
<td>37.1</td>
<td>26.3</td>
<td>(29.1)%</td>
<td>32.8%</td>
<td>53.9</td>
<td>80.2</td>
<td>116.1</td>
<td>44.7%</td>
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<td>07/13/15</td>
<td>09/18/15</td>
<td>Celsius</td>
<td>Voluntion</td>
<td>3.5</td>
<td>12.5</td>
<td>256.6%</td>
<td>8.3%</td>
<td>137.5</td>
<td>150.0</td>
<td>100.2</td>
<td>(33.2)%</td>
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<tr>
<td>03/05/15</td>
<td>08/20/15</td>
<td>TargetCept</td>
<td>Catalyst</td>
<td>35.0</td>
<td>89.2</td>
<td>154.9%</td>
<td>35.0%</td>
<td>165.7</td>
<td>254.9</td>
<td>26.2</td>
<td>(89.7)%</td>
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<tr>
<td>01/14/15</td>
<td>05/04/15</td>
<td>Regado</td>
<td>Tobira</td>
<td>38.0</td>
<td>28.9</td>
<td>(23.9)%</td>
<td>32.0%</td>
<td>61.4</td>
<td>90.3</td>
<td>1,020.9</td>
<td>1030.3%</td>
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<tr>
<td>07/01/14</td>
<td>10/30/14</td>
<td>Synta</td>
<td>Madrigal</td>
<td>43.4</td>
<td>37.5</td>
<td>(13.7)%</td>
<td>10.4%</td>
<td>323.1</td>
<td>360.6</td>
<td>445.2</td>
<td>23.5%</td>
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<tr>
<td>04/16/14</td>
<td>05/27/14</td>
<td>Zalicus</td>
<td>Epirus</td>
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<td>26.9</td>
<td>108.5%</td>
<td>19.0%</td>
<td>114.7</td>
<td>141.6</td>
<td>94.4</td>
<td>(99.7)%</td>
</tr>
<tr>
<td>08/28/13</td>
<td>11/21/13</td>
<td>Oncoidea</td>
<td>Intra-Cellular</td>
<td>49.0</td>
<td>50.0</td>
<td>2.0%</td>
<td>15.1%</td>
<td>281.1</td>
<td>331.1</td>
<td>659.2</td>
<td>99.1%</td>
</tr>
<tr>
<td>04/23/13</td>
<td>07/15/13</td>
<td>Transclone</td>
<td>Oceira</td>
<td>15.3</td>
<td>15.0</td>
<td>(20.0)%</td>
<td>27.4%</td>
<td>39.7</td>
<td>54.7</td>
<td>70.7</td>
<td>29.1%</td>
</tr>
<tr>
<td>04/23/12</td>
<td>10/23/12</td>
<td>Nabi</td>
<td>Biota (Avaragen)</td>
<td>66.3</td>
<td>79.4</td>
<td>19.8%</td>
<td>26.0%</td>
<td>226.0</td>
<td>305.4</td>
<td>74.2</td>
<td>(75.7)%</td>
</tr>
<tr>
<td>06/13/11</td>
<td>11/03/11</td>
<td>Trimeris</td>
<td>Synageva</td>
<td>47.0</td>
<td>63.6</td>
<td>35.3%</td>
<td>25.0%</td>
<td>190.8</td>
<td>254.4</td>
<td>9,300.0</td>
<td>3555.7%</td>
</tr>
<tr>
<td>04/07/11</td>
<td>09/12/11</td>
<td>SuperGen</td>
<td>Astex</td>
<td>125.0</td>
<td>195.0</td>
<td>56.0%</td>
<td>65.0%</td>
<td>105.0</td>
<td>300.0</td>
<td>806.9</td>
<td>169.0%</td>
</tr>
<tr>
<td>01/10/11</td>
<td>02/11/11</td>
<td>Biotie</td>
<td>Synova</td>
<td>N/A</td>
<td>121.2</td>
<td>N/A</td>
<td>50.1%</td>
<td>120.7</td>
<td>241.9</td>
<td>363.0</td>
<td>50.1%</td>
</tr>
<tr>
<td>12/01/10</td>
<td>12/01/10</td>
<td>Insmed</td>
<td>Transave</td>
<td>108.0</td>
<td>95.2</td>
<td>(11.9)%</td>
<td>53.3%</td>
<td>83.4</td>
<td>178.6</td>
<td>938.7</td>
<td>425.6%</td>
</tr>
<tr>
<td>03/31/10</td>
<td>07/21/10</td>
<td>MDMA</td>
<td>Cequent</td>
<td>N/A</td>
<td>53.7</td>
<td>N/A</td>
<td>53.3%</td>
<td>47.1</td>
<td>100.8</td>
<td>3.9</td>
<td>(96.2)%</td>
</tr>
<tr>
<td>07/07/09</td>
<td>09/29/09</td>
<td>TorreyPines</td>
<td>Raptor</td>
<td>N/A</td>
<td>1.4</td>
<td>N/A</td>
<td>5.0%</td>
<td>26.6</td>
<td>28.0</td>
<td>793.9</td>
<td>2735.4%</td>
</tr>
<tr>
<td>07/01/09</td>
<td>12/21/09</td>
<td>CombateoRx</td>
<td>Neuromid</td>
<td>27.8</td>
<td>28.1</td>
<td>1.2%</td>
<td>56.2</td>
<td>28.1</td>
<td>30.8</td>
<td>185.2</td>
<td>(45.2)%</td>
</tr>
<tr>
<td>11/04/08</td>
<td>02/25/09</td>
<td>ReplicateRx</td>
<td>Cardiovascular</td>
<td>20.6</td>
<td>30.4</td>
<td>47.6%</td>
<td>17.0%</td>
<td>148.4</td>
<td>178.8</td>
<td>808.1</td>
<td>351.9%</td>
</tr>
<tr>
<td>09/25/08</td>
<td>01/27/09</td>
<td>Nuvelo</td>
<td>ARCA</td>
<td>24.0</td>
<td>22.0</td>
<td>(8.5%)</td>
<td>33.0%</td>
<td>44.7</td>
<td>66.7</td>
<td>25.7</td>
<td>(61.5)%</td>
</tr>
</tbody>
</table>

(1) FactSet Research Systems Acquirer cash balance denotes cash equivalents and marketable securities from latest filing prior to announcement.
(2) Reflects public equity value based on acquirer’s stock price one day prior to announcement date.
(3) Implied valuation derived from acquirer value and acquirer % owned post-merger.
(4) Implied valuation of the combined company at the time of announcement.
(5) Market capitalization based on fully diluted shares outstanding, and closing price as of 09/30/16.
(6) The combined value of Celsius and Voluntion (Akari Therapeutics) reflects the $75mm concurrent financing completed as part of the reverse merger.
(7) Surviving company was later acquired, so market capitalization reflects last date available prior to acquisition.

*Source: CapitalIQ, nd Company website and filings, as of 09/30/16.*
• Pending merger between Biodel Inc. (public acquiror) and Albireo Limited (private target) pursuant to which each holder of Albireo shares or notes convertible into Albireo shares will sell all of their outstanding shares of Albireo in exchange for newly issued shares of Biodel common stock
  • Proxy: https://www.sec.gov/Archives/edgar/data/1322505/000119312516713520/d2222o8ddefm14a.htm
  • Equity plan provides for acceleration of unvested equity awards upon Biodel’s change of control
  • Merger triggers transaction bonuses under severance agreements with former Biodel executives
• Each of the Biodel officers and directors entered into 180-day lock-ups in connection with the merger
• New equity incentive plan to be adopted in connection with the merger for use by Albireo (replacing Biodel version); all stock options outstanding under the Biodel Plan will remain in-force pursuant to their terms
• Each holder of unexercised Albireo stock options or warrants will be offered, effective at or after the closing of the merger, a replacement option exercisable for Biodel common stock
Pending merger between Macrocure Ltd. (public acquiror) and Leap Therapeutics, Inc. (private target) pursuant to which Macrocure shareholders will exchange their Macrocure shares for newly issued shares of Leap common stock, Macrocure will become a wholly-owned subsidiary of Leap and Leap will become a public company

- Form S-4: https://www.sec.gov/Archives/edgar/data/1509745/000104746916015711/a2229626zs-4.htm
- Leap to assume Macrocure's 2008 and 2013 Share Incentive Plans and all obligations thereunder
- Each outstanding option and warrant, whether or not vested, to purchase Macrocure ordinary shares unexercised prior to the consummation of the merger will be converted into an option or warrant, as applicable, to purchase Leap common stock
• Merger between Synta Pharmaceuticals Corp. (public acquiror) and Madrigal Pharmaceuticals, Inc. (private target) pursuant to which a wholly-owned subsidiary of Synta merged with and into Madrigal, with Madrigal surviving as a wholly-owned subsidiary of Synta
  
  • Proxy:  
  https://www.sec.gov/Archives/edgar/data/1157601/000104746916013711/a2228864zdefm14a.htm
  
  • All securityholders of Madrigal were parties to a 180-day lock-up in connection with the merger
  
  • In connection with the merger, stock plan increased the number of shares available for issuance by 40 million shares (previously 5,815,641 shares were available for grant)
• Synta stock options and other equity awards that were outstanding immediately prior to the effective time of the merger remained outstanding and unaffected by the merger

• Merger between Celsus Therapeutics Plc (public acquiror) and Volution Immuno Pharmaceuticals SA (private target) pursuant to which Celsus purchased all of the capital stock of Volution from RPC, Volution’s sole shareholder, in exchange for ordinary shares of Celsus

  • Proxy:
    https://www.sec.gov/Archives/edgar/data/1541157/000114420415045881/v416463_defm14a.htm

  • In connection with the merger and pursuant to his employment agreement, the Celsus CEO’s stock options were accelerated

  • RPC, Volution’s sole shareholder, agreed to a 180-day lock-up in connection with the merger
• Equity incentive plan was amended to increase the number of shares available for grant by 135 million shares to an aggregate of 141 million shares
• Each option and warrant to purchase Celsus shares continued according to its normal terms following the merger, subject to adjustments contained in certain Celsus warrants
• Merger between Regado Biosciences, Inc. (public acquiror) and Tobira Therapeutics, Inc. (private target) pursuant to which Landmark Merger Sub Inc., a wholly-owned subsidiary of Regado, merged with and into Tobira, with Tobira surviving as a wholly-owned subsidiary of Regado
• Proxy: https://www.sec.gov/Archives/edgar/data/1311596/000119312515103256/d852929ddefm14a.htm
• Merger entitled Regado’s CEO to a one-time performance bonus in lieu of his annual target bonus pursuant to his employment agreement
• Certain Regado securityholders and Tobira securityholders and their affiliates agreed to 90-day lock-ups
• No change to stock options to purchase Regado common stock, subject to reverse stock split adjustments

Precedent transactions, cont’d.
Following the announcement of the Celsus/Volution merger in July 2015, the combined company (Akari Therapeutics, Plc) successfully marketed a PIPE transaction led by Deerfield for $75 million with Venrock, Vivo Capital, Foresite Capital, NEA, QVT Financial, RA Capital and other institutional investors participating; the closing of the PIPE and the merger were consummated concurrently in September 2015.

Concurrent with the Regado/Tobira merger, the combined company completed a PIPE transaction which issued $40 million of common stock allowing the combined company to be fully funded for the next 18 months.
Key transaction terms

- Proposed transaction and ownership split
- Value assumptions depend upon share ownership of the combined company
- Financing needs take into consideration current cash and contingent liabilities of public company
- Board composition: 1-2 public company directors become directors of the combined company
- Other assumptions: no debt at closing, all payables and accrued expenses are fully paid including employee severance and retention costs, property lease obligations and any costs/expenses relating to winding down clinical studies
- Due diligence
Additional financing considerations

- Pursue a concurrent PIPE transaction for additional capital
- Does the operating company have a shelf registration? Will the shelf registration be effective and “current” following completion of the transaction?
- How will the stock perform post-merger? Who will provide research coverage and after-market support?