



CDMO Industry Update
PharmSource-
Pharmaceutical Technology
Breakfast
AAPS 2015

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October 27, 2015



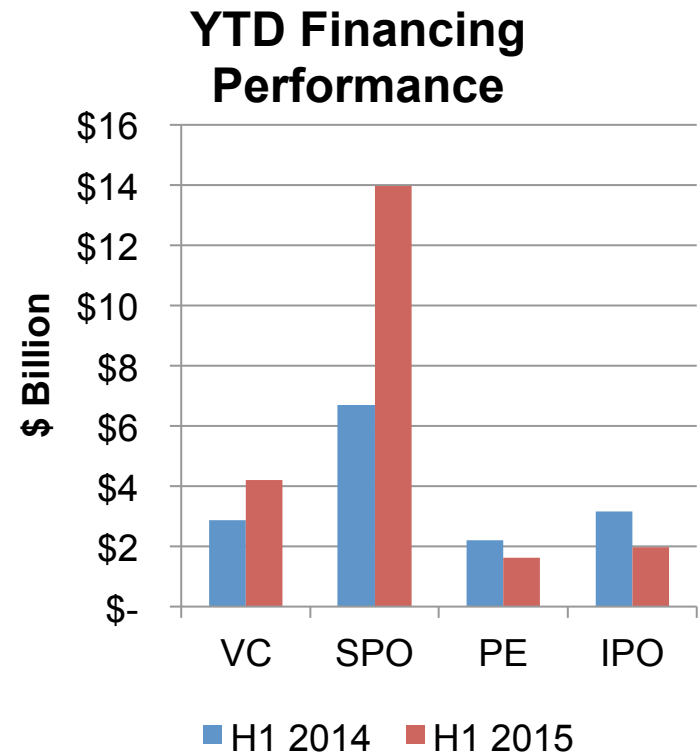
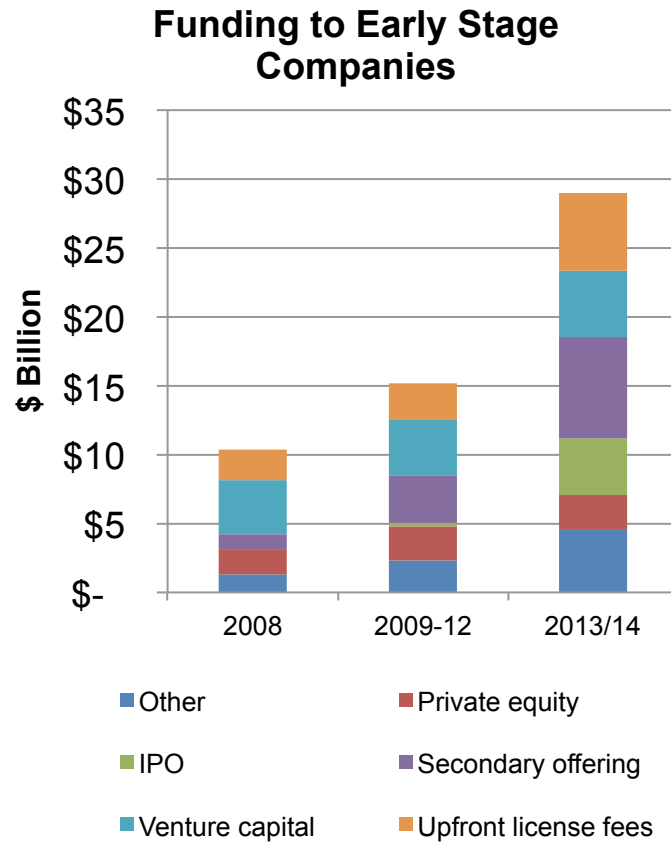


A Gilded Age for Bio/Pharma CDMOs

- Growing understanding of disease processes and targets
- Broad array of treatment modalities
- Surging valuations attract a flood of money
- Expanding R&D spending



Financing fueling pipeline growth

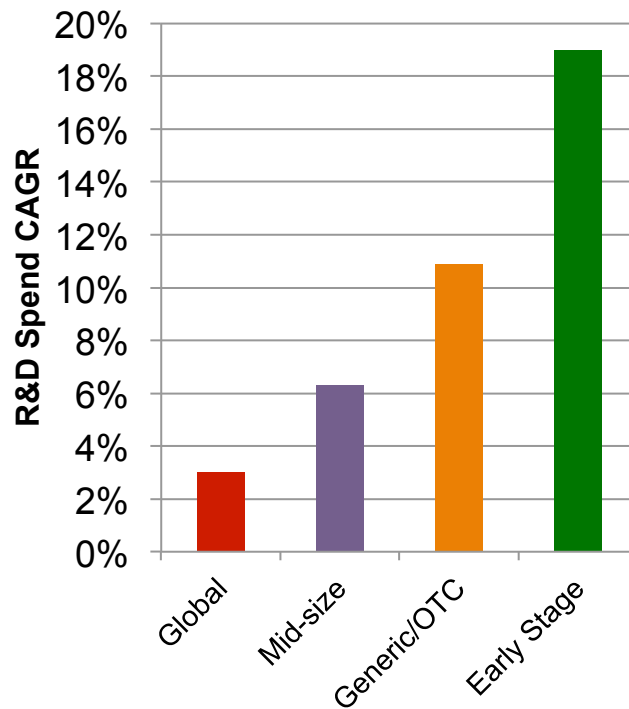


Source: PharmSource Lead Sheet; public financial reports



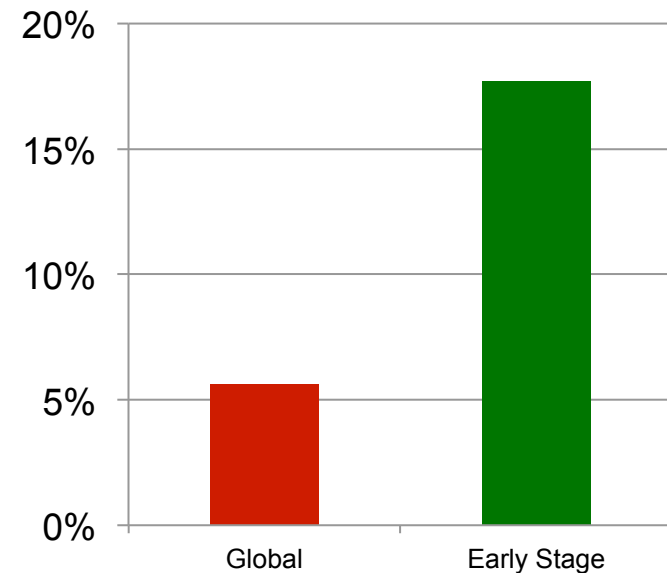
R&D spending up sharply

R&D Spending Growth 2010-2014



Source: Public financial reports

R&D Spending Growth H1 2015



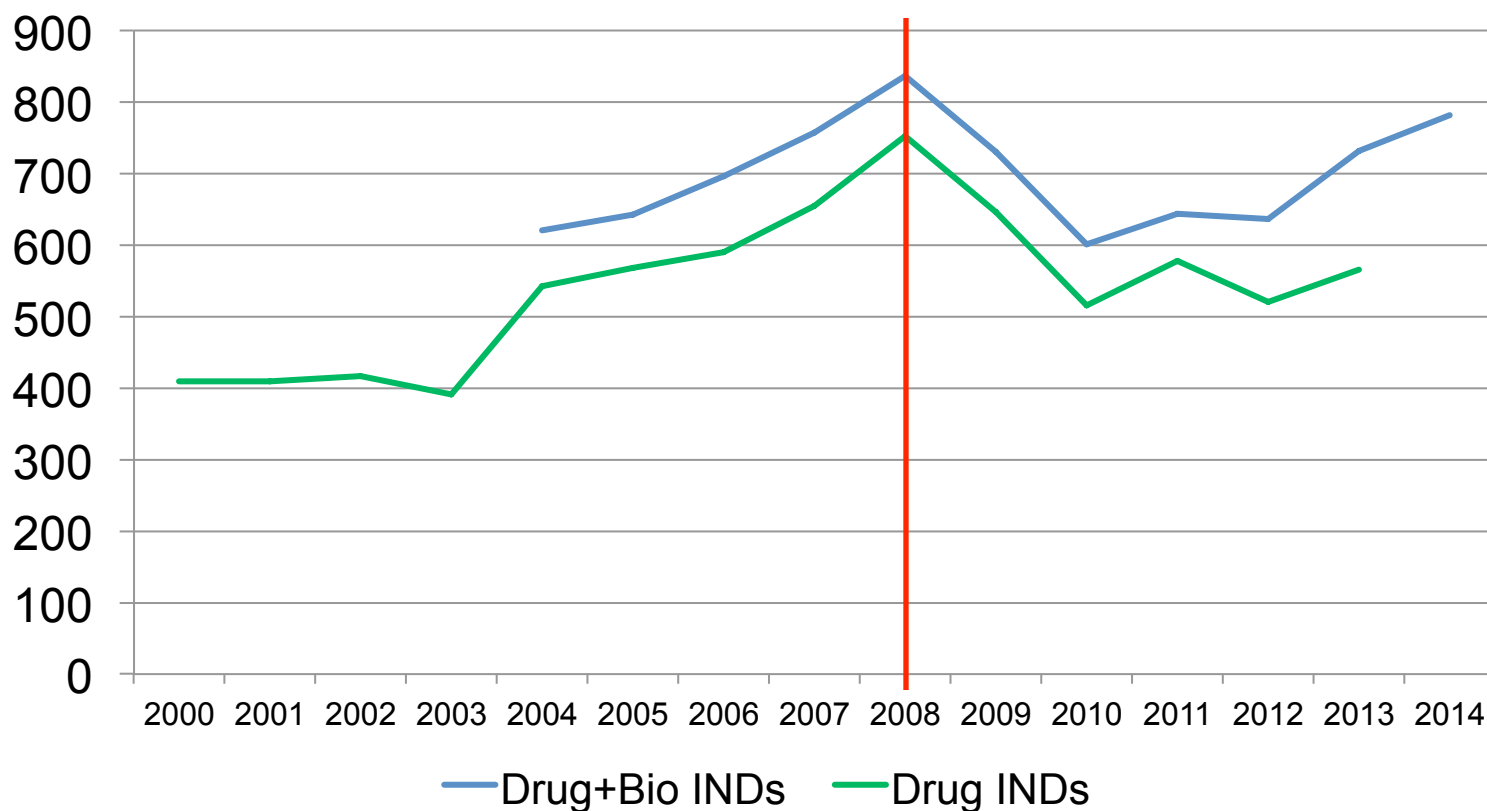
Notable increases:

- Abbvie +12%
- BMS +22%
- AstraZeneca +24%
- Gilead +28%
- Celgene +38%



New IND filings approach all-time high

Commercial IND Filings

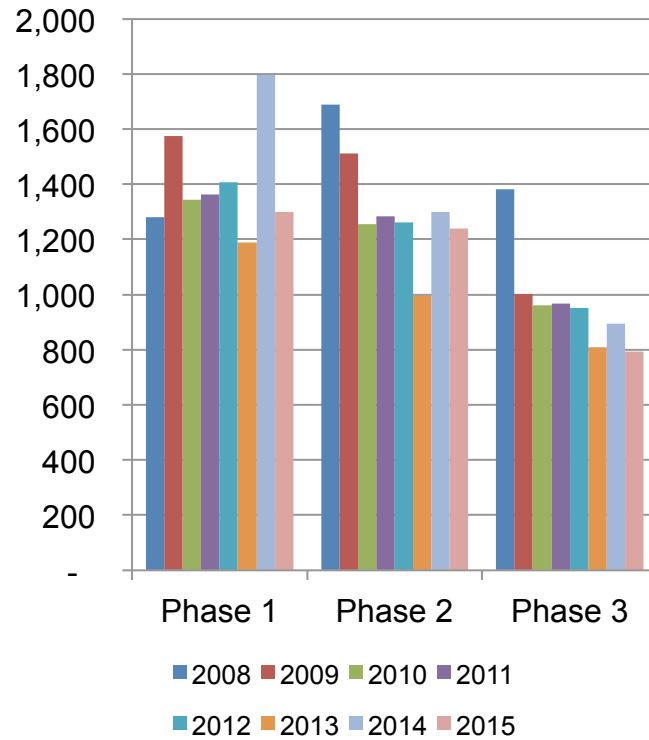


Source: FDA data, Parexel Sourcebook



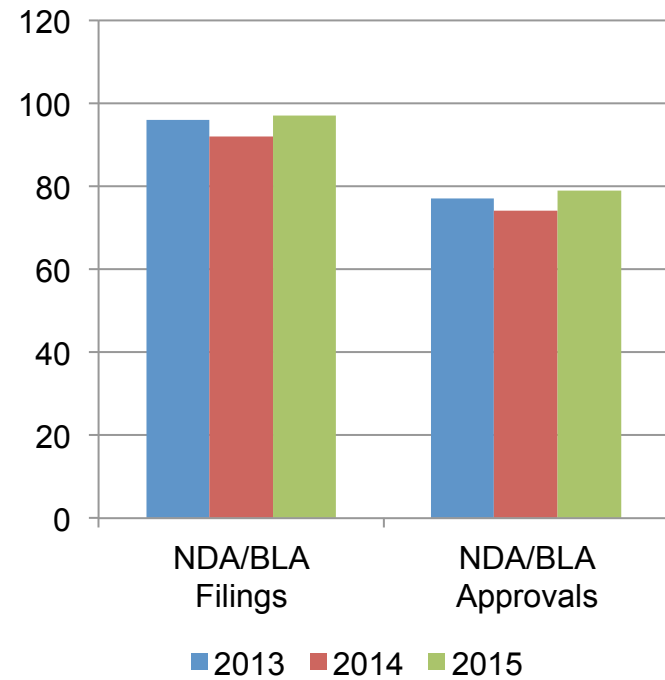
Activity is still early phase

Clinicaltrials.gov Registrations
9 months



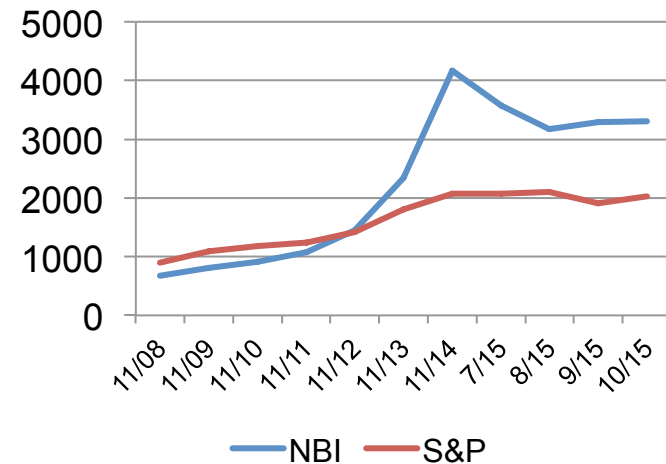
Source: clinicaltrials.gov

New NDA Filings
9 Months



Source: FDA data

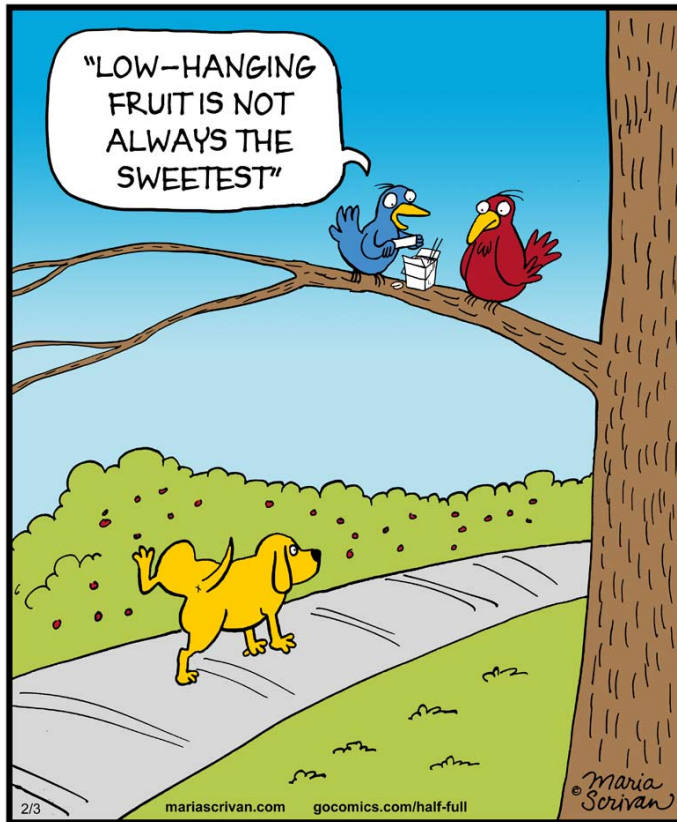
Who knows when it will end?



Potential market deflators

- Macroeconomic shock
- Sector rotation
- Clinical failures
- Changes in global bio/pharma licensing/acquisition strategies

A critical decision time for CDMOs



- **Are you building base for long-term success or just being opportunistic?**
 - Client selection
 - Pricing
 - Capabilities
- **VC clients not especially attractive**
 - Limited experience
 - Short pipelines
 - High churn
 - Funding dependent



Common strategic errors

Fear-based pricing

- Low margins in a seller's market

Inability to deliver

- Pigging out on low hanging fruit
- Weak project management

Too much technology

- Don't need one of everything
- Need technical knowhow to use equipment properly

Inadequate and inappropriate investment








- Need more "firmware" less hardware



What's the outlook for CDMOs?

- Strong financing will drive R&D
 - It will end sometime but can't predict
- Late development/commercial should benefit over 2-5 years
- Industry reputation will suffer if it can't deliver on time and as promised
- Unprecedented opportunity for CDMOs to decide what they they want to be and how to get there

**Actionable Intelligence
for Pharma Sourcing**

<p>Our Thinking</p>  <p>How big is the market for...?</p>	<p>Trend Reports</p>  <p>Dose CMOs by the Numbers: Composition, Size, Market Share, Profitability and Outlook</p>	<p>Blog</p>  <p>Identifying Atypical Opportunities using PharmSource Lead Sheet</p>
<p> Lead Sheet</p>  <p>Real-time Expert BD Intelligence</p>	<p> Strategic Advantage</p>  <p>Proprietary Global Sourcing Intelligence in an Instant</p>	<p>Market Intelligence</p>  <p>Emerging Markets Outsourcing Report: Vietnam Market Lacks CMOs Despite Local Content Requirements</p>