Private and Confidential

What To Do When Catastrophe Comes Knocking:

Fold, Fight, Partner, or M&A (Buy/Sell or Merge)?

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Global Context for Biotech & Specialty Pharma [1/4]

- Macroeconomic Issues Cast a Cloud Over an Already Bad Market
  - Biotech Financing at Lowest Levels since 2002
  - US IPO Market closed in November 2007
  - Lack of any Major Biotech Storyline

  - Credit Crunch becomes Credit Crisis
  - Recession Fear becomes Depression Fear
  - Political Change could mean US Healthcare Change

- M&A is the Major industry Trend
  - 'Push' – Investors look for an exit, Executives seek out buyers
  - 'Pull' – Pharma need for Products & Technologies, finds Biotech a Value

- At same time, Phama shows a willingness for 'Over-the-Top' Alliances

Source: Lazard Freres 9/07 Survey of 215 Senior Executives in Life Sciences Industry

Global Context for Biotech & Specialty Pharma [2/4]

It is not pretty out there…

- Housing market tanked and home prices in a downward trend
- Credit markets frozen
- Banks failing to the extent that big rescue $$$ needed
- Rising unemployment in all sectors
- Historic declines in stock market overall and in bellwether companies
- DJIA off 34% in 2008; NASDAQ Composite down 41%
- "The worst crisis since the Great Depression"
- Pfizer buying Wyeth, but will lay off almost 20,000 people
- More Big Pharma recent layoffs: Merck 7,200; AstraZeneca 7,400; BMS 3,700
- Mid-Sized Pharma and Biotech cutting jobs too: Sepracor 940; Lexicon 100; etc, etc

The Question: How will my Biotech company deal with this environment?

Fold, Fight, Partner, or M&A (Buy/Sell or Merge)?

Global Context for Biotech & Specialty Pharma [3/4]

Deloitte Recap Data on 227 Public Biotech Companies*

- Median Market Capitalization of $178 million
  - Down from $206 million at end of 1Q08
  - Down from $264 million at end of 2Q07

- 85 companies with Market Cap <$100 million
- 127 companies between $100 million - $1 billion
- 35 companies with Market Cap >$1 billion
- 6 companies with Market Cap .$10 billion

Source: Signals Magazine (www.signalsmag.com)

Global Context for Biotech & Specialty Pharma [4/4]

- M&A continues as the major industry trend
  - Big Companies (Pharma/Big Biotech) acquire products and technologies
  - Biotech consolidation as companies struggle to finance
- Big Companies continue to do Over-The-Top Partnering Alliances
  - Early Stage deals designed to deliver proof-of-concept products
  - Late Stage deals for near market products and large markets
- New models emerge for companies to raise cash
  - Alternative financing facilities and funds
  - Corporate investments, straight or convertible loans/debt, and product rights

Source: Signals Magazine (www.signalsmag.com)

Fold?

A number of Biotechs have recently taken this road (some even by choice, others not):

- **AtheroGenics** (NASDAQ: – Files for Chapter 11
  - Large debt burden forced the Company's hand during the Q408 credit freeze. Liquidation soon
- **Neose** (NASDAQ: NTEC) – Liquidates assets to partners Novo Nordisk and BioGenerix
  - With a cash runway extending only to Q209, Company decides to sell assets to its collaboration partners
- **Akesis** (OTC: AKES) – Files for Chapter 7
  - Negative preclinical safety data on its sole clinical stage program, in Phase II for diabetes led to the decision
- **Curalogic** (CPH: CUR) – Votes for liquidation
  - Ongoing effort to in-license new clinical assets did not yield results, so shareholders cash out
- **Progen** (NASDAQ: PGLA)
  - Fouled merger with Avexa, then cancer pipeline, most $ going back to shareholders

Fight? (= More Cash)

"Markets be damned, we will find a way to raise capital"

- **IPO window is frozen shut!**
  - Only 6 meaningful IPOs in 2008, none were in Biotech, with 2009 looking no better
- **Few investors will do a Follow-on Equity Financing**
  - There were no follow-on offerings completed in 4Q08
  - Seattle Genetics was able to reverse the trend, and price a $56M offering in late January 2009
  - Feb/Mar 2009: Algeta $36M, Ariad $24M, Intermune $56M, Geron $48M, Cadence $87M, Affymax $42M, Symphogen $42M
- **Private equity will continue to be scarce**
  - VCs hoarding cash to extend portfolio company runways, i.e. mostly insider rounds
  - Funds looking preferentially at devalued public stocks, i.e. PIPE and VIPE investments
  - But deals being done
- **Debt or venture debt**
  - There may be an appetite for debt deals but for small Biotech companies, beware of "Ides of March"
  - Feb/Mar 2009 Public Debt: Gen-Probe $170M, Clinical Data $150M, EpiCept $25M Novartis $5B, Roche $40B
- **Monetizing royalties/revenues** to generate cash (Sanctura, Vertex, Vernalis, et al)?
- **Restructuring** operations? Pruning back clinical programs?

Partner?

Cash-rich Big Pharma may be the answer

- **Partnering is still active, but now even more competitive**
  - Small or poor companies are now offering up their crown jewels
  - Any geography, earlier than they wanted and sometimes for less, often for a lot (in BioWorld dollars)
    - Novartis agreement with Portola for Phase II anti-platelet drug Elinogrel, February 2009: $575M
    - BMS agreement with ZymoGenetics for Phase I PEG-Interferon lambda for Hep C, January 2009: $515M
    - Idenix Pharmaceuticals license agreement with GSK for Phase II HIV drug IDX899, February 2009: $450M
    - Micromet option agreement with Bayer Schering for BiTE antibody, January 2009: $390M
    - Plexxikon alliance with Roche for Phase I PLX5568 for pain and polycystic kidney disease, January 2009: $335M
    - BioMarin agreement with La Jolla Pharma for Phase III Riquent, anti-lupus, January 2009: $290M
    - AEterna Zentaris agreement with Sanofi-Aventis for Phase III Cetrorelix for BPH and endometriosis, March 2009: $165M

- **Shark-like Big Pharma smells blood in the water from bleeding survivors**
  - Taking their time to selectively build up RX and DX franchises
  - To hedge (and because they can), deal with equity purchase in lieu of non-dilutive cash upfront

- **Turning Partnering into an Exit?**
  - BI – Actimis “licensing deal” was actually a structured take-out with milestone payments used to buy out Actimis shareholders; the pipeline used to build NewCo

IND is Costly and Slow, so Partnering Becomes Crucial

	Screening / Hit-to-Lead	Lead Optimization	Preclinical /IND Development	Phase I
Cost per stage* ($M)	$1.5 M +	$13 M +	$8.2 M =	$22.7 M
POS to IND	15.4%	31.1%	50.9%	100%
Time to IND* (yrs)	5.1 yrs	3.3 yrs	1.4 yrs	--

Source: Deloitte Development LLC

Typical Financial Terms of Partnering Deals, by Stage at Signing

	Preclinical	Phase I	Phase II	Phase III*
Upfront	$3-10M	$5-15M	$10-25M	$40-100M
IND	$2-5M	NA	NA	NA
Phase II Start	$3-8M	$5-10M	NA	NA
Phase III Start	$10M	$10-15M	$25M	NA
NDA Filing	$5M	$3-10M	$3-10M	$50M
1st Approval	$5M	$10M	$30M	$50M
2nd-3rd Approval	$10M	$20M	$45M	$70M
Royalty Tiers	9-13%	12-15%	14-20%	18-26%

Vs 5 Yrs Ago

3 x

3 x

2-3 x

1.2 x

* + Supply, Profit , Carve-outs, Co-Promote, etc.

Source: Deloitte Development LLC

Time to Market and Stage at Signing of 50 Successful Partnering Alliances

Stage at Signing	# of Deals	Average Months to US Approval
Discovery	3	128
Lead	10	90.5
Preclinical	7	65.4
Phase I	1	51
Phase II	6	55.2
Phase III	16	35
Filed	7	16.9

Source: Deloitte Development LLC

Partnering Deals are Doing Well, but…

- Early stage deal valuations are rising
- Technology platform alliances are attracting partners, raising capital & limiting scope,

  So what's the bad news…

- 75% of all respondents* think private biotechs will explore a sale rather than a large alliance

  (80% Private Bio; 84% VC)

So "False Flagging " may become the standard tactic, whereby

False Flagging is that context in which a licensor disingenuously undertakes a corporate partnering process with the hope or expectation that the transaction will become an M&A transaction

*** Lazard Freres 9/07 Survey of 215 Senior Executives in Life Sciences Industry**

Why Does Biotech Engage in “False Flagging”?

“Public” scrutiny

- The biotech may want to conceal its motives from rivals and from investors

Generate competitive environment

- While there may be few likely M&A counterparties, they may be many more potential licensees that could drive competition (real or imagined) for a deal

Sum of the parts may seem or be better than the whole

- Biotech may have one attractive (lead) asset that is used to excite potential partners into an M&A auction

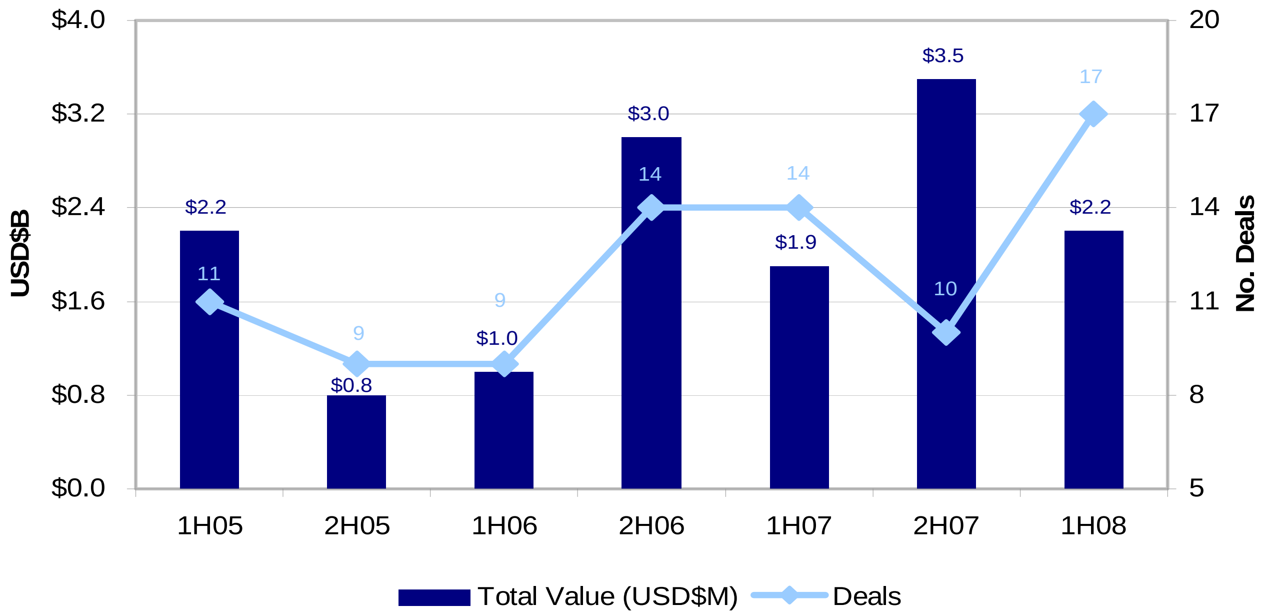
Subtle means to an exit

- Venture investors usually have voracious appetites for cash and false flagging is a subtle way to determine if a near-term exit is likely to attain their goal

Merge or Buy?

There must be safety in numbers…mustn't there be?

- M&A activity in the biopharma space has been dented but remains rather resilient compared to the market as a whole
- Giants seeking refuge: Pfizer – Wyeth – Merck – Schering Plough
- Recent mid-market examples:
  - Cephalon - Arana (under way); Deerfield - NitroMed; Endo – Indevus; Medicines Co – Targanta; Avigen – MediciNova (under way); Novacea – Transcept; Nuvelo - ARCA



Source: PricewaterhouseCooper, Thomson Reuters, NVCA MoneyTree Survey. Data current as of 10/13/08

Fairly Constant Trade Sales of Private/Specialty Pharmas

Number of Transactions of Venture-backed Companies	
2005	21
2006	23
2007	23
2008 (to 3Q)	24
Total	91

Source: PricewaterhouseCooper, Thomson Reuters, NVCA MoneyTree Survey. Data current as of 10/13/08

Transaction Volumes and Values: US vs European Trade Sales

Total Number of Transactions 2005-3Q08	
US	56
Europe	32
Total	91

Average Transaction Size ($M) 2005-3Q08	
US	203
Europe	102
Overall Average	168

Source: PricewaterhouseCooper, Thomson Reuters, NVCA MoneyTree Survey. Data current as of 10/13/08

Who Were the Buyers? How Did They Pay For Deal?

2005-3Q08 Acquisitions by:

- **Small Biotech - 37 (41%)**
  - **9 paid cash**
  - **19 paid in shares**
  - **5 cash & shares**

- **Large Pharma - 32 (35%)**
  - **30 paid cash**
  - **1 paid in shares**
  - **1 cash & shares**

- **Specialty Pharma - 13 (13%)**
  - **9 paid cash**
  - **3 paid in shares**

- **Large Biotech - 9 (10%)**
  - **7 paid cash**
  - **1 paid in shares**
  - **1 cash & shares**

What Were The Acquirors Buying?

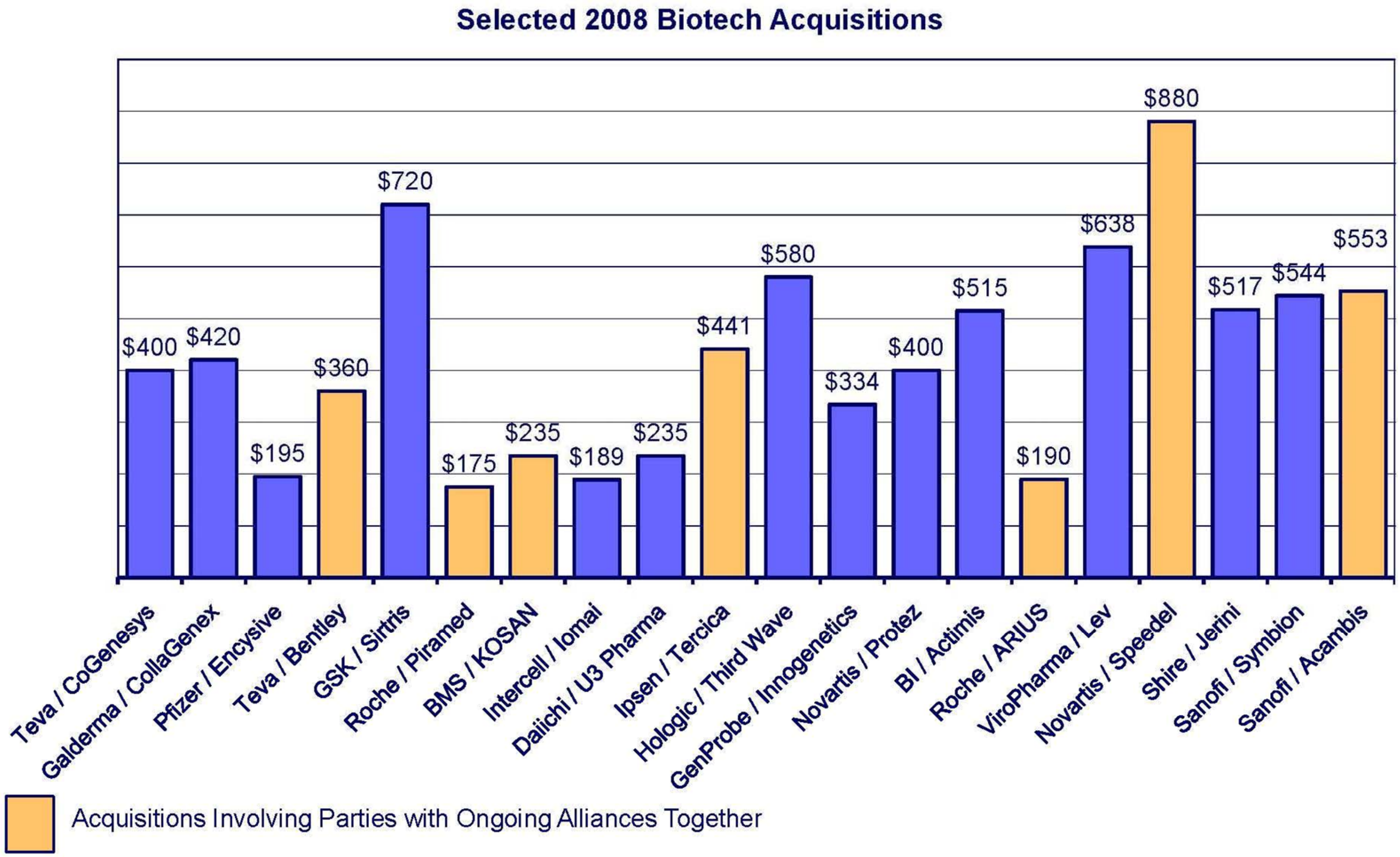
Stage of Lead Product of Company Sold 2005 – 3Q08:

- **10 Approved/Marketed (11%)**
- **7 Phase III (8%)**
- **24 Phase II (27%)**
- **15 Phase I (17%)**
- **32 Preclinical (37%)**

Therapeutic Focus of Company Sold (Top 7 fields) **2005 – 3Q08:**

- **25 Cancer**
- **15 CNS/Pain**
- **13 Autoimmune/inflammation**
- **10 Anti-infectives/vaccines**
- **10 Metabolic**
- **5 Cardiovascular**
- **3 Respiratory**

Many Recent Acquisitions Have Indeed Been Extensions of Extant Alliances



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Are Things As Bad As They Appear or Are They Worse?