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Global Healthcare Investments

Global Biopharmaceuticals thru 2013

Global: US, EU & Japan Biotech, Indian Generics,
Emerging Markets, and Unprofitable companies

Pharma Sales: Trend is Weak

USD (m)	2002	2003	2004	2005	2006	2007	2008	2009
Global/Amer.Nor xMex	100,831	115,927	128,415	133,282	136,485	147,414	159,099	160,342
% Chg	3.6	15	10.8	3.8	2.4	8	7.9	0.8
Global/Europe west	89,382	112,539	128,735	145,403	162,935	178,007	186,149	177,998
% Chg								
Global/AsPac.Japan								
% Chg								
SpecialtyPharma/Amer.Nor xMex								
% Chg								
SpecialtyPharma/Europe west								
% Chg								
SpecialtyPharma/AsPac.Japan								
% Chg								
MatureBioTech/Amer.Nor xMex								
% Chg								
MatureBioTech/AsPac.Other								
% Chg								
Generics/AsPac.Japan	183	357	568	810	877	917	1,213	1,567
% Chg	15	95.2	59.1	42.6	8.3	4.6	32.3	29.2
Generics/AsPac.India	2,144	2,748	3,127	4,296	6,092	7,473	8,913	8,632
% Chg	24.2	28.1	13.8	37.4	41.8	22.7	19.3	-3.2
TOTALS	241,900	288,999	329,241	360,829	391,976	424,614	461,268	461,708
% Chg Total	11.6	19.5	13.9	9.6	8.6	8.3	8.6	0.1

This Part Is Intentionally Kept Hidden

Projections thru 2012 – Compilation of piece by piece estimate

Sector	Sales Growth (%)	EPS Growth (%)	PE	PEG	EV/EBITDA	Price/Book Value	Mkt Cap/Sales	Net Margin (%)	ROE (%)
Indian Generics	12.0	14.2	10.8	0.8	6.6	1.2	1.2	14.2	14.8
Mature Biotech	8.8	11.2							21.7
Japan Generic	14.9	11.0							9.5
Global EU	1.8	4.6							19.0
Specialty	(0.6)	2.4							13.6
Japan Majors	(0.5)	2.4							11.6
Global US	(0.2)	0.1	8.6	157.6	5.5	1.9	2.3	27.5	22.4

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Source: Mehta Partners, Company Reports

No hope for sales growth in US,EU and Japan for Patented Products

R&D ‘Productivity’ @ Large Cap is Ridiculous

Company Name	NME Approvals (1999-2008)	Cumulative R&D Spend in \$m (1999-2008)	Compounds in PhIII (as on Nov'08)
Novartis	14	47,193	15
Pfizer	13	67,658	7
GSK	8	43,621	10
Merck			
SGP			
BMS			
Wyeth			
Sanofi-Aventis			
Eli Lilly			
Roche			
Astrazeneca			
J & J			
Abbott	2	18,279	2
Novo Nordisk	2	9,525	1
Total	85	480,713	
Average Cost		5,655*	

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*Assuming entire spending was done on NME's
Source: Mehta Partners, Company Reports

Escalating Healthcare Burden - Not Sustainable in Major Markets

- Obama Aiming For Healthcare Inflation Parity With GDP Growth
- Generics vs. Innovative Product Flow—**Red Ink** Ahead!
 - Biosimilars to Constrain Next Decade as Small Molecules Did Last Decade
 - Generics in Japan—a \$25 Billion High Margin Opportunity
 - Generics Offer Some Respite in Healthcare Inflation, Unit Share From 67% to 80%
 - Demise of Authorized Generics + Therapeutic Substitution
- Evidence Based Reimbursement or Comparative Data—Money Back Guarantee!
- Patients Feeling Fine Despite Deferring Healthcare—Further Questioning Pharma Value

Challenges Ahead

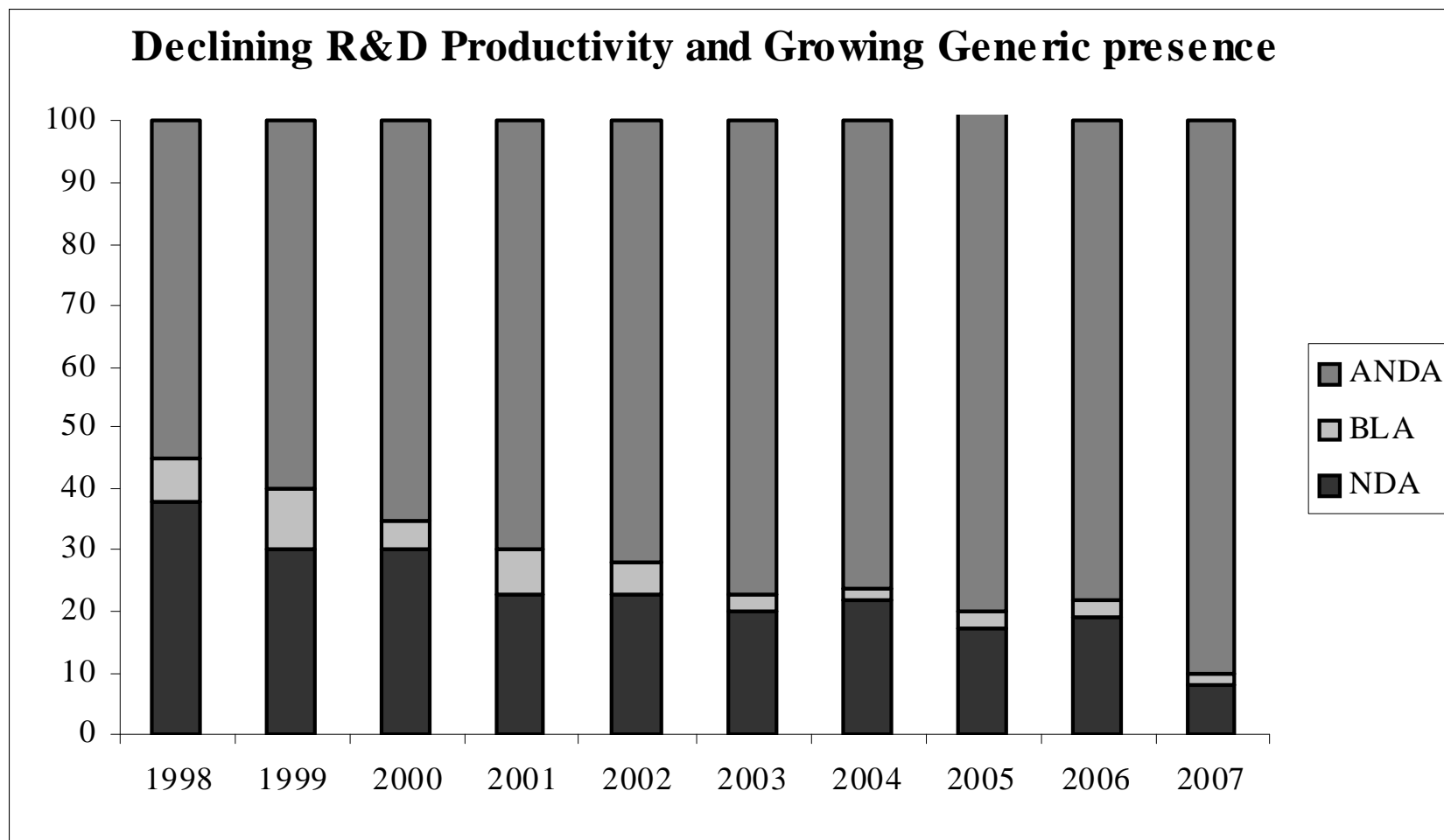
- **IP vs. Exclusivity Period — “Are Patents Granted Too Easily?”**
- **Health reforms everywhere, from the US to Japan**
 - From Part D drug rebates to least costly alternative among 115 options in the US
 - Implicit parity for long-listed-drug prices with generics —Discounts from 30% to 50%
 - Pricing freedom no more
- **Will life cycle management strategies remain rewarding?**

Macro Environment Supports Further ‘Genericisation’

Global Pharma Macro Overview

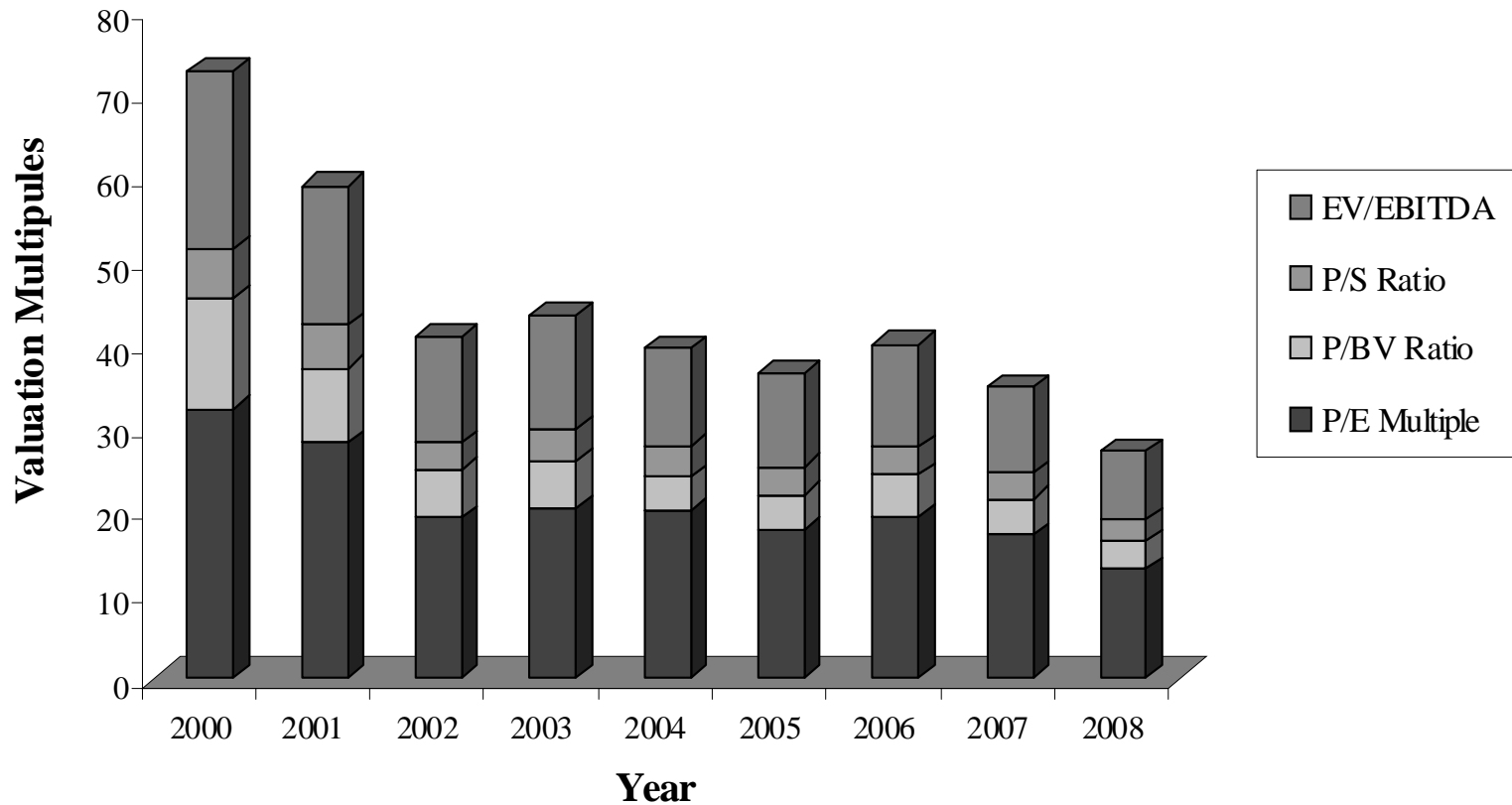
Novartis, Schering Plough

Valuations & R&D Productivity go Hand in Hand



Where Will This Stop?

Global Pharma Valuations : Declining Trend




Source: Mehta Partners, Company Reports

Untenable Trends

Another Decade Before R&D Yields More Sustainable Flow:

- The 14 global companies reported 2007 pharma sales of ~ \$360 billion
- Their R&D spend in 2007 was \$65 billion
- Over the next 8-years, to balance patent expiries and normal sales erosion, these 14 companies will need an estimated 25 NMEs/year (or 2 NMEs/company/year to simply maintain 2007 sales base of \$360 billion in 2015).
- Cumulative R&D spending will exceed \$500 billion over these 8-years
- For our entire 350 company universe, the US FDA approved only 18 NMEs in 2007, which somewhat improved to 24 NMEs in 2008.

R&D Output Lag

Particulars	
Total Pharma Sales (2008) in (\$b)	 <p>This Part Is Intentionally Kept Hidden</p>
% coming from off patent products	
% that will go off patent by 2016	
Terminal life of expired products in 2016	
Sales needed to be replaced by NMEs in 2016 (\$b)	
Average peak sales of NMEs (2008-16) in \$m	
No. of NME's required to replace lost sales	
No. of NME's required per year	25
No. of NME Approval in 2008 (by global pharma companies.)	5

Global Pharma Companies Require 25 NME Approvals every Year For The Next 8 Years Just To Maintain Their 2008 Sales!! In 2008, they missed the required run rate by 20!!

NME / NBE Approval and R&D Spend

Company Name	NME Approvals (1999-2008)	Cumulative R&D Spend in \$m (1999-2008)	Compounds in PhIII (as on Nov'08)
Novartis	14	47,193	15
Pfizer	13	67,658	7
GSK			
Merck			
SGP			
BMS			
Wyeth			
Sanofi-Aventis			
Eli Lilly			
Roche			
Astrazeneca			
J & J			
Abbott			
Novo Nordisk			
Total			
Average Cost		5,655*	

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Source: Mehta Partners, US FDA

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R&D Multiple – A Measure Of Street’s Perception On R&D Productivity And Sustainability

Global Names	5 Year R&D Expense (2009-13) in LC, millions	5 Year FCF (2009-13) in LC, millions	Current Market Cap in LC, millions	Net Cash in LC, millions	Current Mkt Cap Adjusted for Net Cash (LC, m) = D+E	Premium Mkt Cap (Adj for Net Cash) over 5 Year FCF (LC, m) = F-C	Premium in Excess over 5 years R&D spend (LC, m)	R&D Multiple = G/B
A	B	C	D	E	F	G	H	I
Schering-Plough	18,068	15,983	27,000	(4,599)	31,599	15,617	(2,452)	0.86
Pfizer	32,425	59,420	114,000	26,082	87,918	28,498	(3,927)	0.88
Merck	24,807	33,135						
Sanofi-Aventis	19,894	39,316						
AstraZeneca	25,853	34,745						
Eli Lilly	19,091	24,575						
Novartis	38,042	56,392						
Roche	45,636	52,439						
Bristol-Myers	17,118	19,312						
Wyeth	16,902	18,797						
GSK	19,029	31,373						
Novo Nordisk	44,128	61,722						
Abbott	17,973	35,512	81,090	(3,893)	87,983	52,071	34,079	2.90

This Part Is Intentionally Kept Hidden

Source: Mehta Partners, Company Reports

As Innovation Is Faltering, Investors Are Unwilling To Pay For R&D

It Pays To Be A Contrarian

2000-05			2001-06			2002-07			2003-08		
Stock Price Premium over average M.V/B.V Multiple	Company Ticker	Stock Price Performance	Stock Price Premium over average M.V/B.V Multiple	Company Ticker	Stock Price Performance	Stock Price Premium over average M.V/B.V Multiple	Company Ticker	Stock Price Performance	Stock Price Premium over average M.V/B.V Multiple	Company Name	Stock Price Performance
23%	BMS	-20%	33%	BMS	-13%	61%	PFE	-6%	-27%	PFE	-12%
14%	MRK	-19%	47%	PFE	-9%	47%	LLY	-3%	43%	LLY	-9%
6%	SGP	-18%	34%								
41%	PFE	-13%	-21%								
35%	LLY	-9%	-10%								
-80%	BAY	-8%	55%								
131%	WYE	-6%	114%								
19%	GSK	-5%	22%								
-27%	AZN	-3%	-12%								
-32%	ABT	-3%	3%								
-60%	NVS	-1%	-20%								
0%	SAN	1%	-61%								
-39%	JNJ	3%	-83%								
-61%	ROG	4%	-37%	NOVOB	7%	-34%	ROG	17%	-42%	NOVOB	17%
-51%	NOVOB	4%	-63%	ROG	13%	-47%	NOVOB	23%	-75%	BAY	23%

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When R&D Outcome is Increasingly Becoming Unpredictable, Valuation Multiple (M.V/B.V) Still Holds Strength In Predicting Long Term Performance

Metrics Of A Good Business Model That Will Sustain The Recessionary Pressures

Company	% of 2007 Sales from Expired Products	No. of products Contributing 60% of Pharma sales 2007	% Sales from Emerging Markets	% Sales from Onco Drugs 2007
GSK	43.5	13	15	2.2
Abbott	43.2	6	5	2.5
Novartis				
SGP				
Sanofi-Aventis				
Merck				
Pfizer				
Wyeth				
Roche				
AstraZeneca				
Eli Lilly				
Bristol-Myers				
Novo Nordisk	NA	NA	17	NA

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Source: Mehta Partners, Company Reports

Japan Macro Overview

Astellas, Mitsubishi-Tanabe, Towa

Tough Road Ahead for Domestic Companies

- Healthcare reforms to usher in:
 - Decreasing ‘Yakka-sa’*
 - Domestic companies vulnerable to healthcare reforms, generics are clear winners and global companies in position to mitigate threat to some extent due to their overseas presence

Global-JP Companies	Domestic-JP Companies	Generic-JP Companies
Takeda	Mitsubishi-Tanabe	Sawai
Astellas	Chugai	Towa
Daiichi-Sankyo	Dainippon-Sumitomo	Nichi-Iko
Eisai	Kirin-Kyowa-Hakko	Nippon-Chemiphar
	Kyorin	

High Dependence on Long Listed Products Increasing

Company	Total revenue (¥b)	Domestic revenue (¥b)	Overseas revenue (¥b)	Long listed prod. revenue as % of total sales	
				2008	2013
Mitsubishi Tanabe	409.3	404.7	4.6	78.0	92.1
Kyorin	81.0				
Dainippon Sumitomo	264.				
Kyowa Hakko	392.				
Chugai	344.8	314.3	30.5	29.3	26.0



*Excluding Amlodipine

Globalization = Superior Value

- US/EU markets are superior despite their pressure points.
- Unlike in the past, new product pricing is often lower than in the US, which is further aggravated for receiving price cuts.

SUPERIOR BUSINESS RETURNS IN WESTERN MARKETS *

Company	R&D Productivity ¹ (x)	ROCE (%)	ROE (%)	O M Excluding R&D expense (%)
Japanese Global Companies				
Astellas	6.40	17.20	10.40	37.90
Daiichi Sankyo				
Eisai				
Takeda				
Average				
Japanese Domestic Companies				
Chugai	6.07	16.00	11.10	36.00
Dainippon Sumitomo	7.00	11.10	7.90	28.40
Shionogi				
Kyorin				
Kyowa Hakko				
Mitsubishi Tanabe	5.39	13.40	8.70	34.70
Average	6.06	11.35	7.35	28.61

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*average of previous 5 years
¹ Sales/R&D expenditure (x); average of 5 yrs

Source: Mehta Partners

Layers of Reforms

Reforms That Will Increase The Use Of Generic Drugs

Near term impact (0-2 years)

- Biannual Price Cuts
- Reversal Of 'Check Box' In Rx Form
- DPC Expansion
- Higher Dispensing Fee
- Mandatory Approval Of All Strengths

Long term impact (>2yrs+)

- Patients Co-payment
 - Freedom To Stock One Generic Brand
 - DPC For Out-patients
 - Free Pricing For Generic Drug
 - Freedom From Product Detailing
-

Reforms That Will Foster Innovation

Near term impact (0-2 years)

Reforms That Will Foster Innovation

- Increased Number Of Reviewers
- Better Clinical Trials Infrastructure & Support

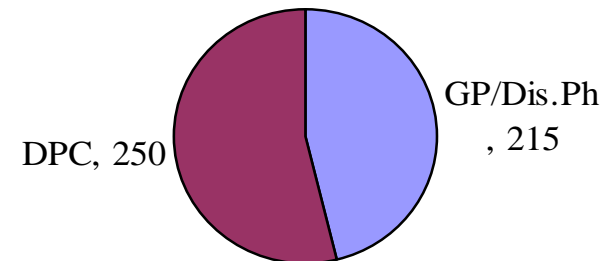
Long term impact (>2yrs+)

- Cost Based Pricing
 - No Price Cuts During Patent Period
 - Free pricing of all drugs
-

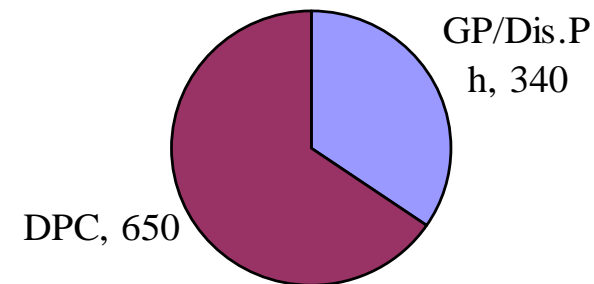
Japan Generics -All set to grow

- Poor generic uptake to date due to:
 - low margins to GPs & pharmacies
 - poor management quality of generic companies
 - psychological barriers
- Generic segment is projected to double by 2012 & triple in size by 2015 backed by pro-generic government reforms.
- Government aims at generic drugs share of 15% by value to current 6.4% by value in total drugs market.
- For generics, marketing/branding capabilities in GP/dispensing pharma market, and distribution capabilities into DPC/large hospitals segment will determine success.
- Near term opportunity lies in GP/dispensing pharma segments, and Sawai and Towa appeared best positioned to leverage benefits from pro-generic reforms.

FY 2008A
~6.4% of Market share



FY 2012E
~12.5% of Market share



Source: Company Reports, Mehta Partners

Japan Generic Drugs Market Model

	Mar-07	Mar-08	Mar-09	Mar-10	Mar-11	Mar-12	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17
Total Rx Market	7,000.0	7,210.0	7,426.3	7,649.1	7,878.6	8,114.9	8,358.4	8,609.1	8,867.4	9,133.4	9,407.4
% Change		3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
New pt Exp. (¥b)	144.0	363.0	144.1	173.8	458.7	137.5	267.3	276.1	78.2	77.1	132.0
Total Long Listed Products in JP (¥b)	2,944.0	3,307.0	3,451.1	3,624.9	4,083.6	4,221.1	4,488.4	4,764.5	4,842.7	4,919.8	5,051.8
Long Listed drug as % of Total DO Market	42%	46%									54%
TOTAL Market Available for Generics	2,944	3,307									5,052
Hospital Market (DPC Affiliates)											
Total Generics Sales at DPC Hospitals	212.0	250.0									1316.9
% Change		18%									9%
DPC Hosp. Generics Sales as % of Total sales	3.0%	3.5%									14.0%
Non-DPC Market											
Total Non-DPC Market (GPs/Clinics/small hosp/pharmacies etc)	1,619	1,521									1,760
Total GP's/dispensing/clinics Market	200.0	214.0									945.0
% Change due to Reforms/ Drivers		7.0%									27.4%
% of total Non-DPC generic market	12%	14%									54%
% of Total Rx market	2.9%	3.0%	3.2%	3.4%	3.7%	4.2%	4.8%	5.6%	6.7%	8.1%	10.0%
Total Generic market (by value in ¥b)	412.0	464.0	539.2	622.5	808.7	986.1	1216.6	1448.5	1707.5	1948.0	2261.9
% change		12.6%	16.2%	15.5%	29.9%	21.9%	23.4%	19.1%	17.9%	14.1%	16.1%
Generics as % of Total Market	5.9%	6.4%	7.3%	8.1%	10.3%	12.2%	14.6%	16.8%	19.3%	21.3%	24.0%

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Indian Generics Macro Overview

Cadila, Ipca

Indian Generics: Global Generics Opportunity...But With Various Challenges

- Generic penetration is a global phenomenon driven by:
 - (1) Making inexpensive yet quality drugs available in regulated markets, &
 - (2) Replacing innovator's products in Emerging Markets.
- Challenges to Going Global:
 - (1) The largest generics markets – the US, UK, Germany are increasingly commoditized
 - (2) And many other regulated markets are going the same way
 - (3) Emerging markets, though lucrative, carry the risk of a sudden change in government policies (Romania, China) and credit risks (Russia)
 - (4) Challenges of cultural diversity

Besides geographic diversification, the globalizing Indian Pharma is capitalizing both on branded and pure generics.

Indian Generics: Regulated Markets – In Summary

- Low cost manufacturing remains a must to penetrate the pure generics market.
- In countries with low generics penetration, focus on commoditized generics may offer an entry point
- In countries with high generics penetration, focus on complex technology and a product basket too needed for superior returns

Integrated manufacturing with complex chemistry skills

Indian Generics: Domestic Market Still the Backbone

- Domestic pharma market grew by 12% annually over the past couple of years due to several reforms that have helped:
 - **Reduce fragmentation by weeding out unhealthy competition from several unorganized players**
 - **Increase the importance of branding**
 - **Increase average pricing – unlike several years in past**
- We expect the reforms to have a long lasting effect and thus forecast 12-15% annual growth rate over the next 5 years
- Domestic market offers cash flow for Indian companies to invest in the global generic opportunities

Emerging Markets

From 10% share of global pharma sales (and little profits) in the 1980s, rapidly expanding middle class commands about one-quarter share today

If the current trends continue, three broadly equal regional shares are likely next decade

- Europe, North America, ROW or emerging markets
- How may current economic turmoil affect these markets?

Emerging markets are much more diverse than the EU, but need more assurance for quality products

- Branded generics offer a sustainable and superior margin growth
- Several countries beginning the R&D journey

Reputation for quality, combined with cutting edge education needed

- Significant investments of time and money

A Different Parallel and Autonomous Management Structure

Major Growth Avenues

- Cost-Effective Innovative Therapeutics

Access to All Who May Benefit!

- Emerging Markets:

- a. Growing Middle Class in Emerging Markets “Out-of-Pocket” Market
- b. Rapid Growth If Market Forces Survive
- c. Improving Margins in Many Markets
- d. Manufacturing “Out-In Sourcing”

Of Course, a Clear Headed, Disciplined Management Critical

Major Movers In Market Share Rank

Several Indian Pharma Companies to Enter the Top-50 by 2012!

Company	Gain >3	Rank 2007	Rank 2012	Company	Drop >3	Rank 2007	Rank 2012
Celgene	9	41	32	Forest	-12	27	39
Aurobindo	9	56	47	King	-10	36	46
Dr. Reddy's	7	45	38	Kyorin			
Gilead	6	25	19	Kissei			
Ranbaxy	6	40	34	Actelion			
Bicon Ltd	6	65	59	Santen			
Cipla	5	48	43	Merck KGaA/Serono			
Wockhardt	5	55	50	Akzo			
Genzyme	4	28	24	Pfizer			
United Therap.	4	67	63	Dainippon Sumitomo			
Shire	3	34	31	H. Lundbeck			
Cephalon	3	38	35	Ono			
Nicholas Piramal	3	51	48	Valeant			
Sun Pharma	3	54	51	Imclone	-3	52	55
Lupin		57	54	Sawai	-3	62	65
				Nichi-iko	-3	64	67



Note: MP projection of 2012 rank is based on bottoms-up financial models and sales projections.

Source: Mehta Partners, Company Reports

Profitable & Unprofitable biopharma/biotech Macro Overview

Profitable biotech (Mature biotech):

Amgen, Biogen Idec, BioMarin, Celgene, CSL, Gilead, Genzyme, Onyx Pharma

Unprofitable pharma/biotech (Rising Stars):

Ablynx, Acorda, Alnylam, Arena pharma, Arqule, Auxilium, Basilea pharma, BioMS, Cytos biotech, Emergen Biosciences, Galapagos, Immunogen, Immunomedics, Incyte, Intercell, Intermune, Isis, LifeCycle, Ligand, Micromet, Myriad Genetics, Nektar, Neurocrine, NicOx, Osiris therapeutics, Rigel, Seattle Genetics, Trubion, Vertex Pharma

How to discover Diamonds in the Rough

- o **Adequate Cash – One of the Important Parameters for Stock Selection...** Cash for at least 18 months to sustain burn/investments in PhII/PhIII clinical development of own pipeline.
- o Disciplined R&D expenditure.
- o Partnership with a large company for at least one of its compounds that validates the promise
- o A First in Class
- o Ability to execute
- o Innovative
- o Track record and (in a high

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Recession to Foster a Symbiotic Relationship

Development Cost: “Average cost” per NMEs at RS is ~\$1.9b vs. Global’s avg cost per NMEs is ~\$5.6b

Fair Value of Select RS companies in current market conditions and desperate need of Global Pharma to acquire late-stage pipeline from RS companies tilts negotiation in favor of RS.

Company	Net Cash (\$m)		FCF (\$m)	
	2008E	2010E	2007A	2010E
Pfizer				279.0
Roche				07.0
Novartis				162.0
Sanofi Aventis				143.0
Wyeth				00.0
Merck				23.0
Bristol Myers				85.0
Eli-Lilly				55.0
Novo Nordisk	1,562.9	4,482.8	1,389.0	2,037.0
AstraZeneca	(5,500.0)	3,258.0	(8,731.0)	8,108.0
Abbott	(5,500.0)	3,258.0	(8,731.0)	8,108.0
Schering-Plough	(4,279.0)	715.0	2,012.0	2,809.0
GSK	(10,540.0)	(1,105.0)	11,880.0	11,275.0
Total	36,561.4	142,850.9	62,844.0	108,555.0

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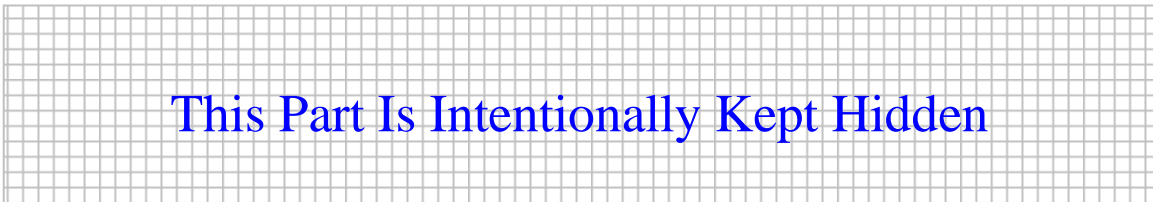
Late-stage Pipeline is more Scarce than Cash!

Source: Mehta Partners

Orphan Drugs for Unmet Needs More Attractive

- In 2008, several drugs were approved for orphan diseases/unmet needs: **Increlix** (Tercica), **Icabitant** (Jerini) and **Cinryze (LEV) for HAE** **Toctino for CHD** (Basilae EU, Canada), **Pirfenidone for IPF** (Chugai/Intermune in Japan) **N-Plate** (Amgen) and **Promacta** (Ligand) for **ITP**, **Zostavax** (MRK) for **Shingles**, **Rotarix** (GSK) for **rotavirus infection** in infants.
- Resulting growth opportunities has led to outright acquisitions (Lev by Viropharma, Tercica by Ipsen), or licensing deals (Dyax by Cubist, ISIS by GENZ, Osiris by GENZ).

Company	Mkt Val (\$m)	Indication	Compound	Peak Sales (\$m)	Partners
Tercica	Acquired	Acromegaly, Short stature in children	Somatuline Depot, Increlex	500+250	Ipsen
Dyax	158	CABG. HAE	DX-88	250+150	Cubist, Dompe pharma
Inspire	189	Dry Eye	Prolacria, Retasis	500	Allergan
Auxilium	864	Dupuytren's contracture, Peyronie's disease, and Frozen Shoulder syndrome	Xiaflex	900	None
Jerini	Acquired	HAE	Icabitant	200	Shire
Isis					
Intermune					
BioMarin					
NicOx					
Basilea					
Rigel					
Acorda	581	Oral-MS co-morbidities-	Fampridine-SR	700	None
Alnylam	752	RSV-therapeutic	ALN-RSV01	750	Kyowa Hakko (JP)
BioMS	174	SP-MS_MS	Dnucotide	2,000	Enly
Eyeteck	Acquired	Wet AMD	Macugen	750	OSI pharma
Genentech	76,520	Wet AMD	Lucentis	2,000	Roche



This trend to continue in 2009 and beyond...

Limited Choices Maintain an Oligopoly

- Historically “New Science” or **cutting-edge technologies** have yielded multiple block busters (rDNA, MABs, Antisense, Stem cells) that underpin the biologics era.. Such “New Science” could finally increase new breakthrough product flow in 2009 as...

Company	Mkt Val (\$m)	Technology Platform	Partner	Products
Alnylam	1,084	RNAi Tech +IP	Roche, Takeda, Novartis, Kyowa)	Product – ALN-RSV01(PhII,
Isis	1,335	Antisense tech	EMD	Product – Mipomersen (PhIII, ISIS/GENZ)
Osiris	532	Stem Cell (Adult Genzyme		Product- Prochymal (PhIII), Chondrogen (PhII)

Needs to place prudent bets on cutting-edge technologies...

Source: Mehta Partners

- Prophylactic Niche Adult Vaccines – A New Opportunity:** Carry a lower risk of failure, and development may be quicker...

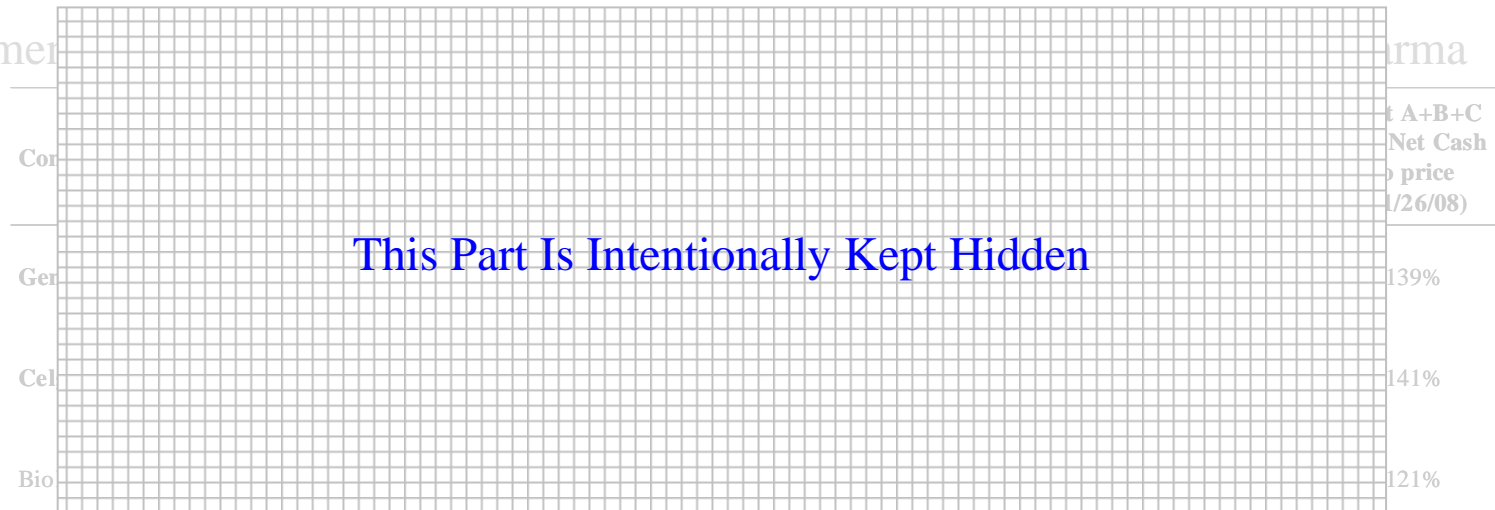
Company	Mkt Val (\$m)	Vaccine	Partner	Phase	Peak Sales (\$m)	Indication	Launch Yr	Yr of Profitability
This Part Is Intentionally Kept Hidden								
		TD Vacc patch	None	II	500	Travelers Vaccine	2012	
		Tuberculosis	SSI/Sanofi	II	1,000	Tuberculosis	2012	
Nabi	159	NicVax	None	II	500	Anti smoking	2011	2012

Source: Mehta Partners

Mature Biotech: Near Term Strengths

1. Net Present Value (NPV) of marketed products >85% of the current market capitalization.
2. Leadership in synergistic therapy areas to its marketed products
3. Longer Patent Protection and R&D productivity not as bad as Global Pharma

4. Management



Company	Market Cap	R&D	Net Cash	Price	NPV	Patent	R&D	Price	NPV
Amgen	55.9	59,478	49.4	10.4	19%	12.7	(9.5)	88%	113%
Genentech	45.1	43,361	39.2	1.9	4%	5.1	1.9	87%	107%
Celgene	27.4	1,567	23.1	3.4	12%	3.4	2.2	84%	117%

Mature Biotech In “Transitional Health”...

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Onyx	27.4	1,567	23.1	3.4	12%	3.4	2.2	84%	117%

Will the Pipeline Deliver?

Company	Cum. R&D expenses 1998-2008 (\$m)	Cum. spend for R&D compound acquisitions (\$m)	Total R&D spend 1998-2008 (\$m)	NMEs approved 1998-2008	Compounds in PhIII (as of 12/31/08)	Avg peak sales of late stage	Est. avg peak sales late stage	R&D product-
	A	B	A+B					
Celgene	1,890	3,237	5,127					
Gilead	2,876	4,075	6,951					
Genzyme	3,878	4,715	8,593					
Onyx	624	-	624					
BioMarin	569	316	885					
Amgen	19,969	21,900	41,869					
Total			64,049	31		4,655	3,198	

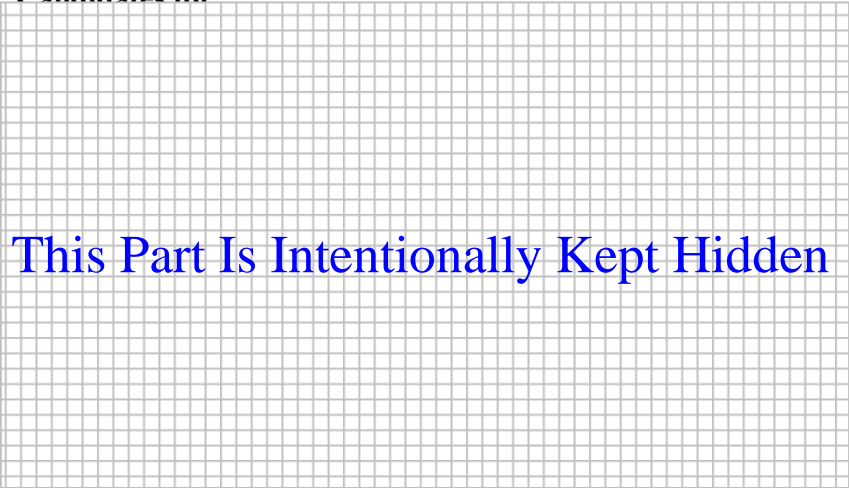
This Part Is Intentionally Kept Hidden

Source: Mehta Partners

$$^1H = [(D*F)+(E*G)]/C$$

How Good a Return Do These Numbers Suggest?

R&D Success - How to Measure?

Independent	Mkt Cap (11/26/2008, \$m)	New Entrants to MB Club	Mkt Cap (11/26/2008, \$m)	Acquired
Actelion	5,619	Alexion	2,646	Chiron
Amgen	59,227	BioMarin	1,634	Endo
Cangene	255	Intercell	1,175	Icos
Celgene	24,275	Myriad	2,827	Ilex Oncology
Cephalon	4,850	Onyx	1,545	Imclone
Cubist	1,418	Candidates for		
Elan	2,938			
Enzon	226			
Genentech	79,218			
Genzyme	17,505			
Gilead	41,018			
Morphosys	445			
OSI Pharma	2,155			
Protein Design	1,120			
Sepracor	1,287			
United Therap.	1,291			
Viropharma	903	Vertex Pharma	3,712	Biogen Idec
				Serono-Merck

Source: Mehta Partners, Bloomberg

\$400 Billion Market Value, 50 Companies, 30 Years!

Performance of RS/MB Sector

Ticker	Company name	Price as on 11/26/08 (LC)	Price as on 06/15/09 (LC)	% Chg	Our Recom./TP
<u>Rising Stars</u>					
ACOR	Acorda Therap.	18.02	26.53	47.2%	OP/\$28
ALNY	Alnylam Pharma	18.58	21.71	16.8%	MP/\$28
ARNA	Arena Pharma	3.84	5.47	42.4%	MP/\$4
BSLN.SW	Basilea Pharma	96	90.6	-5.6%	MP/CHF160
MS.CN	Bioms Medical	2.75	3.05	10.9%	OP/CAD6
GLPG.BB	Galapagos Nv	3.52	7.35	108.8%	MP/€4
INCY	Incyte Corp	3.33	3.16	-5.1%	OP/\$7
ICLL.AV	Intercell Ag	19.3	24.54	27.2%	OP/€36
ITMN	Intermune Inc	11.2	12.16	8.6%	OP/\$30
LCP.DC	Lifecycle Pharma	12	10.8	-10.0%	OP/DKK36
LGND	Ligand Pharm	1.98	2.86	44.4%	OP/\$6
MYGN	Myriad Genetics	28.99	35.48	22.4%	OP/\$80 (excl. splitting)
NBIX	Neurocrine Biosc	2.9	3.36	15.9%	OP/\$8
COX.FP	Nicox Sa	9.5	10.29	8.3%	OP/€14
RIGL	Rigel Pharmaceut	7.16	11.54	61.2%	OP/\$16
SGEN	Seattle Genetics	8.71	9.26	6.3%	OP/\$12
					Country
<u>Indexes</u>					
CCMP	Nasdaq Composite Index	1532.1	1816.38	18.6%	US
NYP	NYSE Healthcare Index	4895.88	5099.67	4.2%	US
NBI	Nasdaq Biotech Index	671.5	708.46	5.5%	US
UKX	FTSE 100 Index	4152.69	4326.01	4.2%	UK
KFX	OMX Copenhagen 20 Index	250.3	300.61	20.1%	Denmark
IVX	S&P 500	436.87	433.59	-0.8%	US
AS51	S&P/ASX 200 Index	3540	4031.7	13.9%	AUS
SMI	SMI Index	5498.56	5400.15	-1.8%	Swiss
IBEX	IBEX 35 Index	8654.1	9518.7	10.0%	US
<u>Mature Biotech</u>					
AMGN	Amgen Inc	55.9	49.44	-11.6%	MP/\$61
BMRN	Biomarin Pharma	16.37	15	-8.4%	MP/\$15
CELG	Celgene Corp	52.98	42.23	-20.3%	OP/\$75
CSL.AU	Csl Limited	32.15	30.73	-4.4%	OP/\$44
GENZ	Genzyme Corp	64.71	55.62	-14.0%	OP/\$90
GILD	Gilead Sciences	45.05	43.93	-2.5%	MP/\$49
ONXX	Onyx Pharma	27.39	25.23	-7.9%	MP/\$33

LC = Local Price, OP =
Outperform, MP = Market
Perform

Source: Mehta Partners 38