



F R I E D M A N B I L L I N G S R A M S E Y

THE PHARMA, BIOTECH AND DEVICE COLLOQUIUM

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F R I E D M A N B I L L I N G S R A M S E Y

KEYS TO RESTORING THE FINANCIAL STRENGTH OF THE PHARMA INDUSTRY

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2005
June

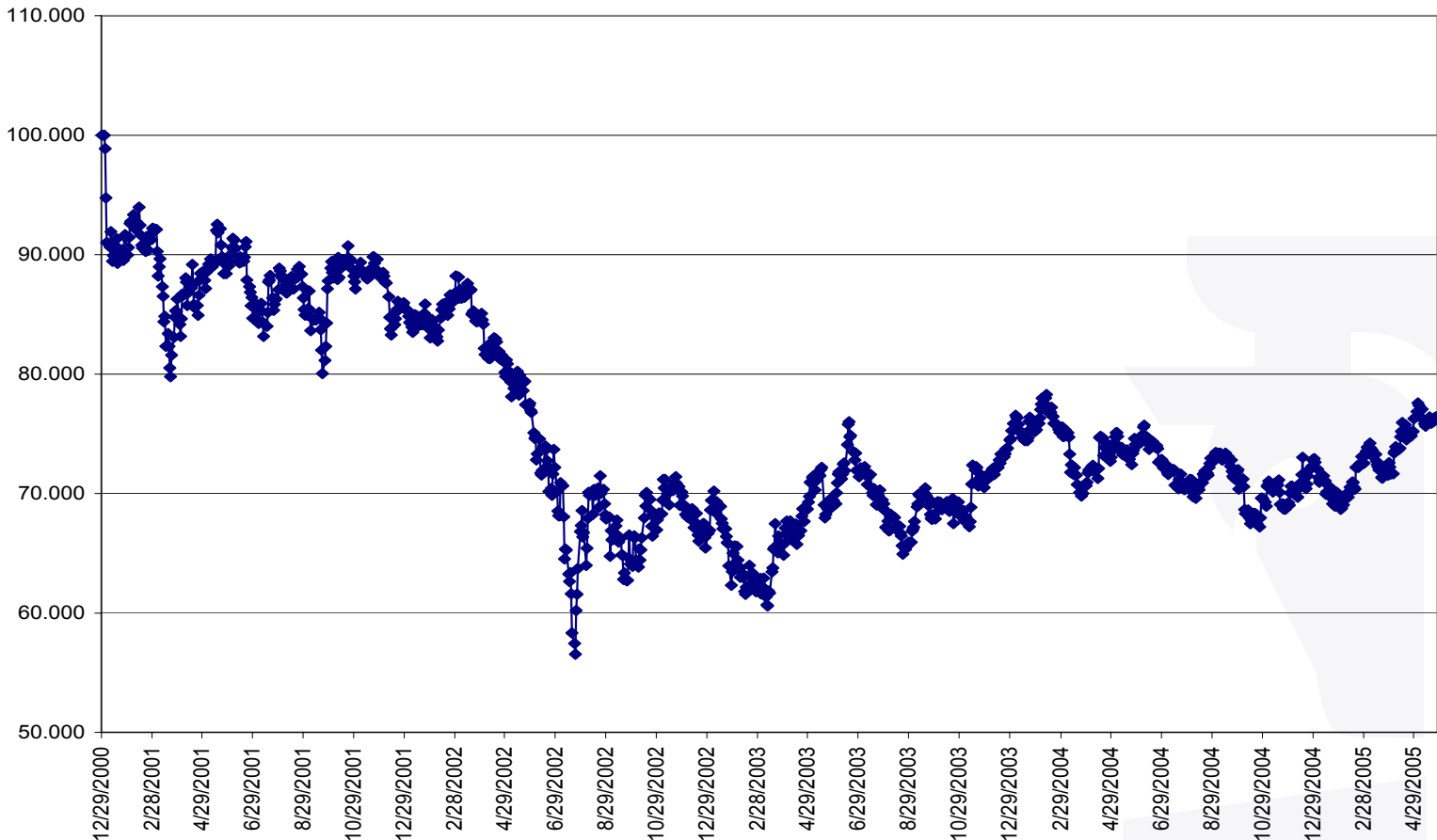


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Major Pharmaceutical Stock Performance (12/29/00 - 5/26/05)

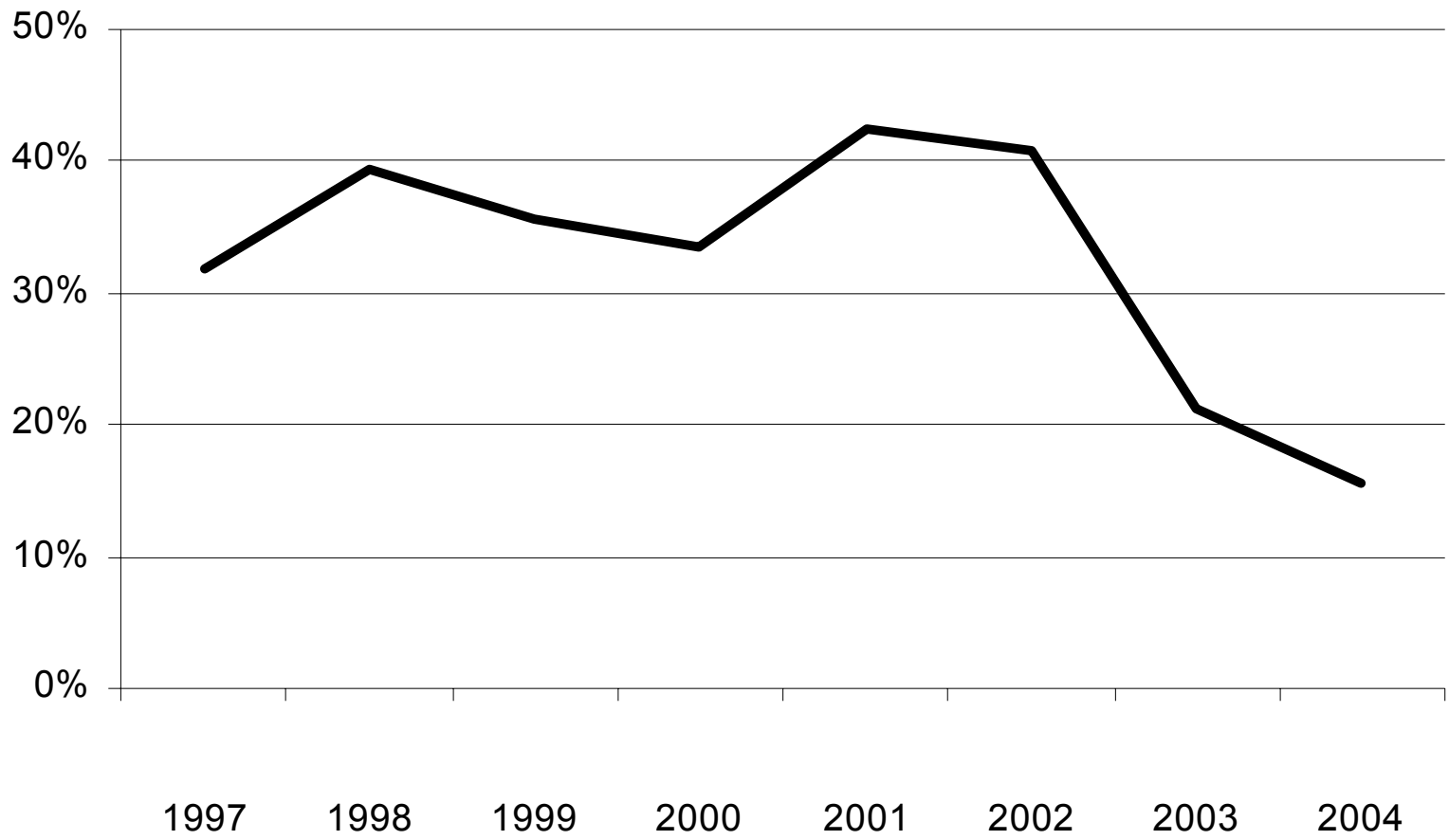


Includes: ABT, AVE, AZN, BMY, GSK, JNJ, LLY, MRK, NVS, PFE, SGP, SNY/AVE, WYE
*As of market close on 5/26/2005

Source: FactSet and FBR Research



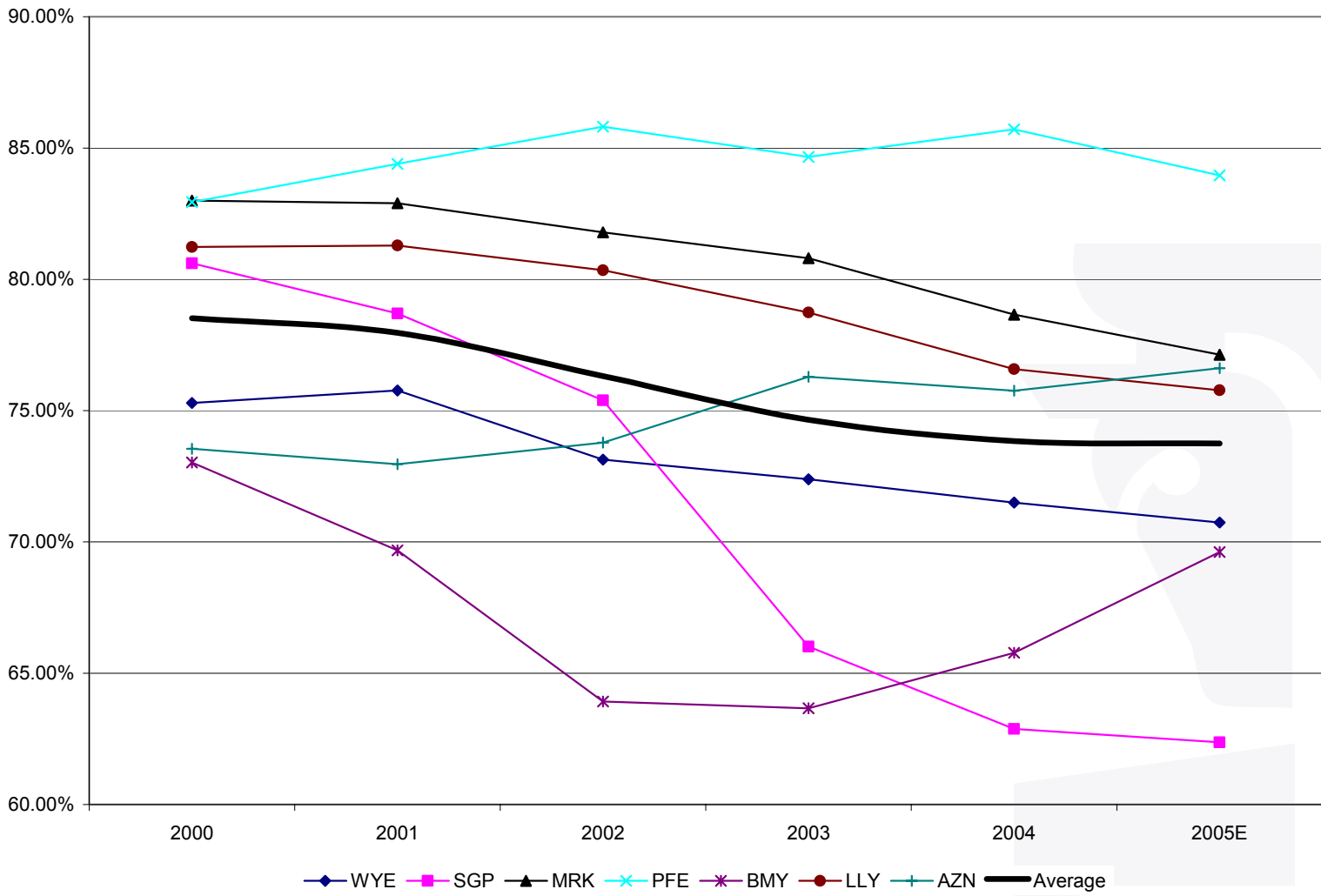
Average Return on Equity of Major U.S. Pharma



Source: FactSet and FBR Research

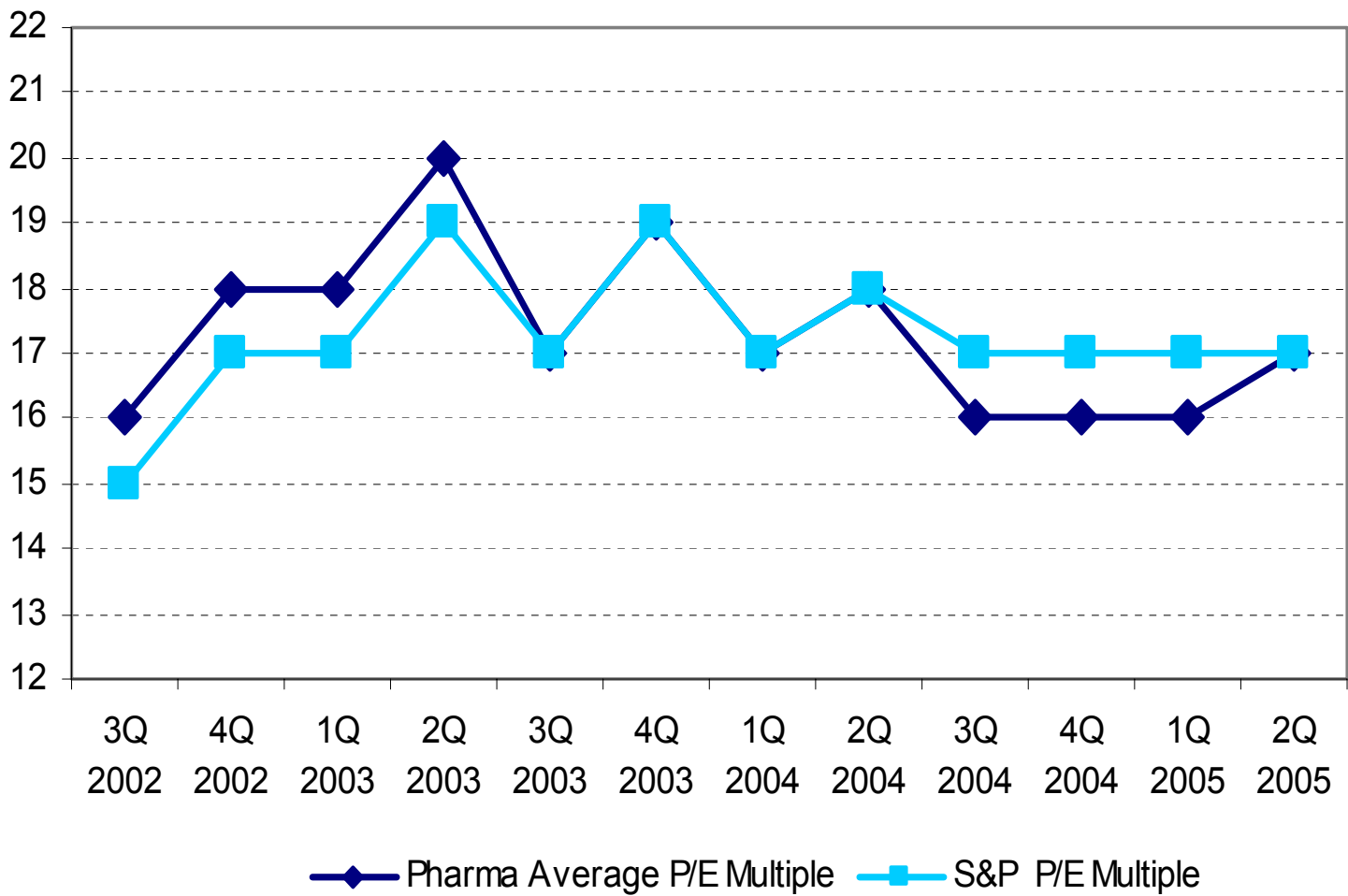


Major Pharma Gross Margins





Historical P/E Comparison—S&P 500 vs. FBR Index of Major Pharmaceutical



Source: FactSet and FBR Research



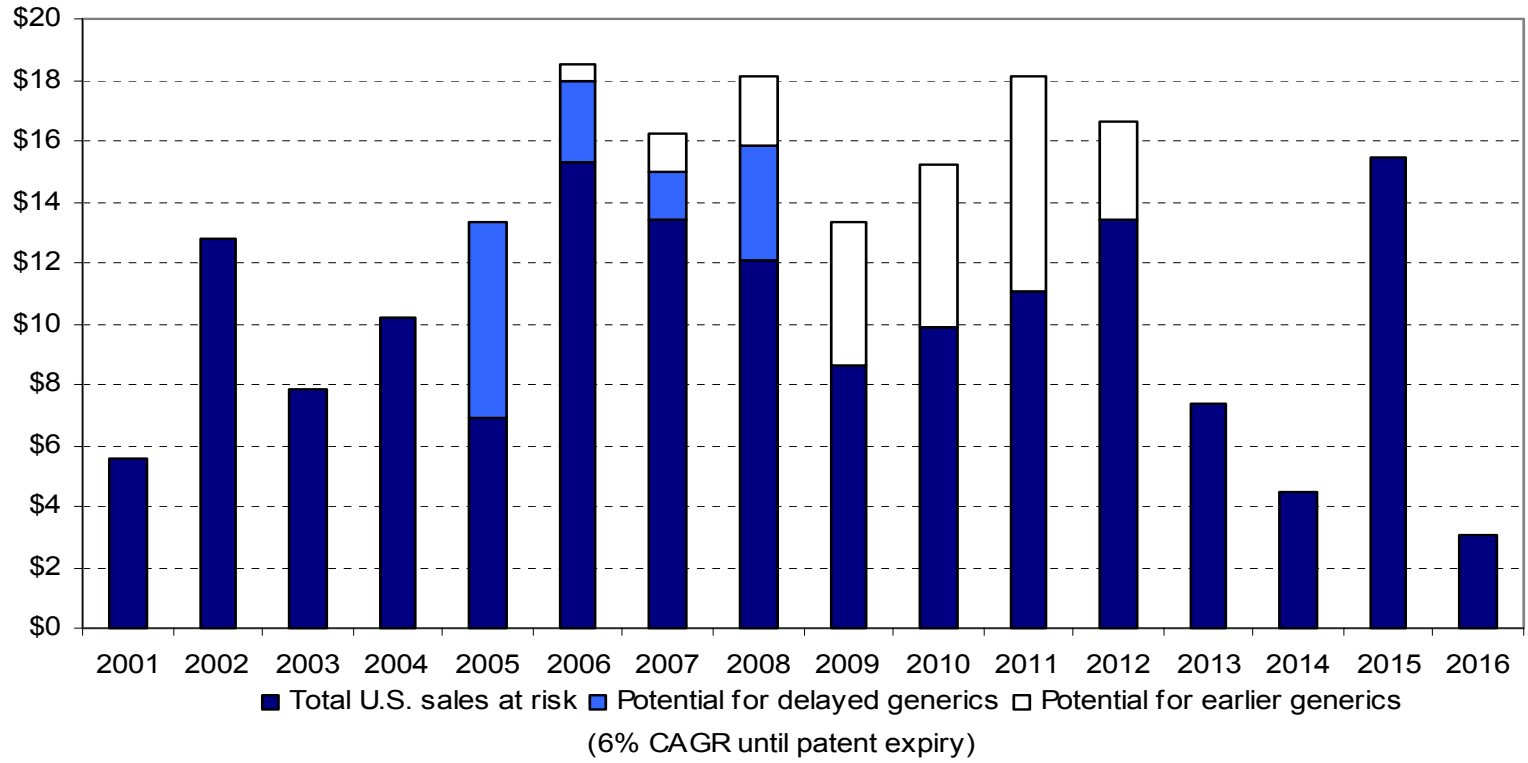
Major Factors Affecting Profitability

- Brand drug patent expirations/challenges
- Formulary management
- Fewer new product launches
- Rising cost of clinical trials
- In-licensing deals
- Company specific issues





Estimated Sales of Major Drug Products Facing Patent Expiration/Challenges (\$ in billions)

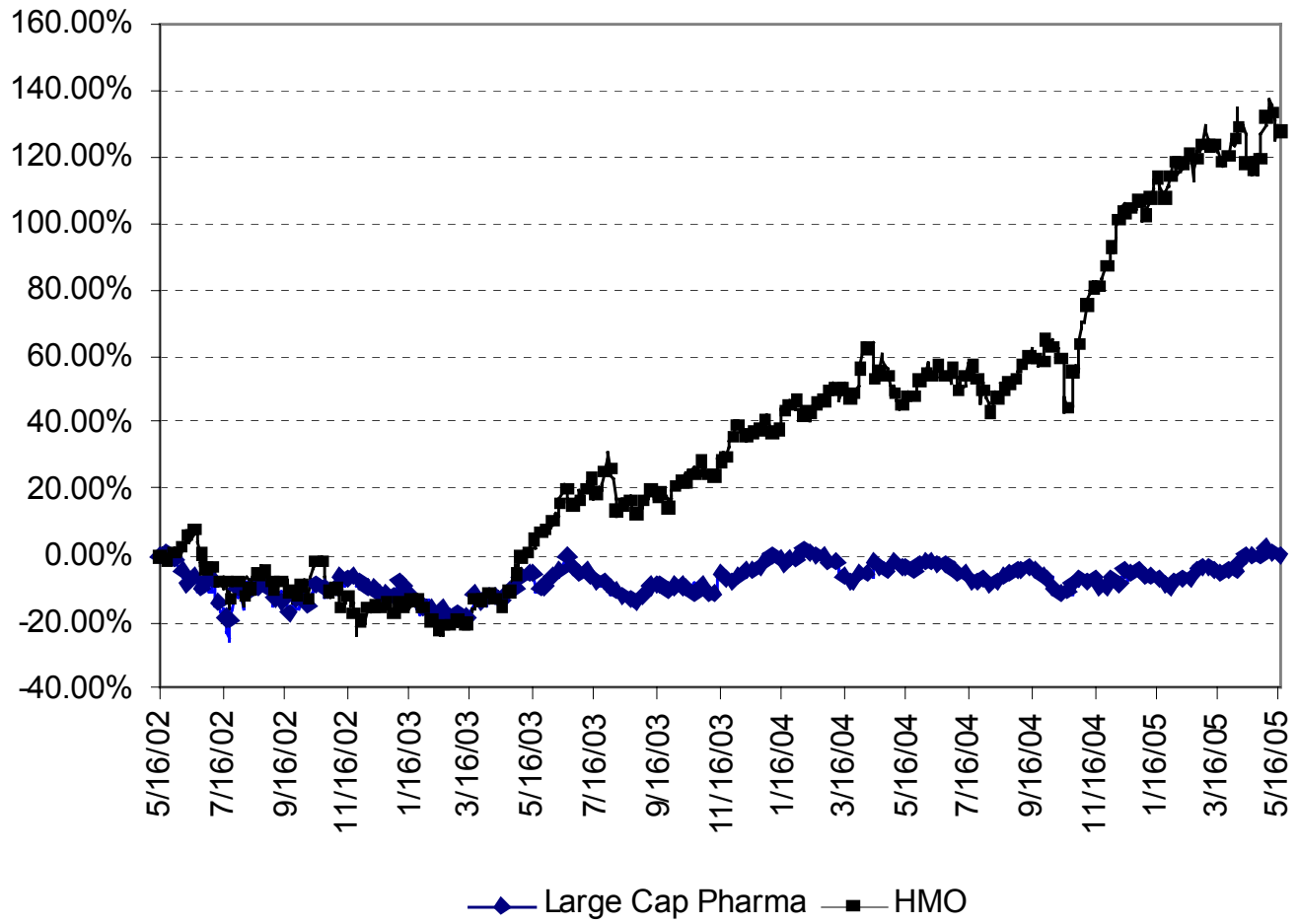


**Products with \$100 million in U.S. sales or more*

Source: FDA Orange Book, Company reports, NDC Health, and FBR Research



Major Global Pharmaceutical Stock Performance vs. AMEX Healthcare Payer Index (HMO)



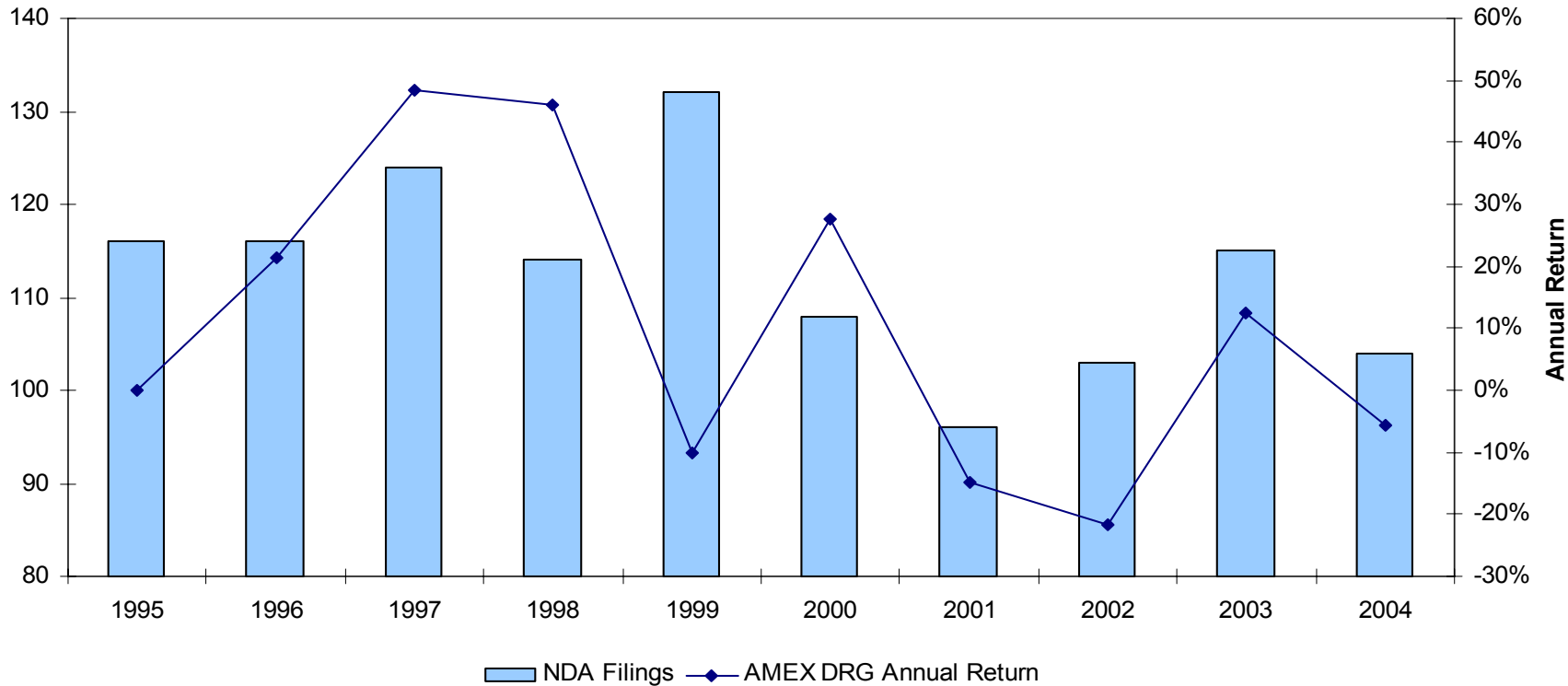
Includes: ABT, AZN, BMY, GSK, JNJ, LLY, MRK, NVS, PFE, SGP, SNY/AVE, WYE

**As of market close 5/20/2005*

Source: FactSet and FBR Research



Total Drug Industry NDA Filings vs. AMEX DRG Index



Source: FDA, FactSet, Bridge, and FBR Research



Rising Drug Development Costs

- Tufts University Estimate - \$800M per drug (CAGR13.25%)
- FBR estimated R&D growth (2000-2008 CAGR 9.6%)
- Average 16.5% of drug company sales
- Late-stage trials more expensive – 30% of R&D expense for clinical trials
- More patients/more requirements per patient
- FDA getting more safety conscious – emphasis on follow-up and safety evaluations – more Phase IV studies
- “Output is decreasing per company and per dollar” (FBR 2005 Pharma Management Survey)

In-Licensing On The Rise (need footnotes)

Drivers:

- R&D productivity crisis
- Increased exposure to patent expiry
- Misaligned corporate strategies and product portfolios
- Change in R&D technologies outpace technology adoption rates

Statistics:

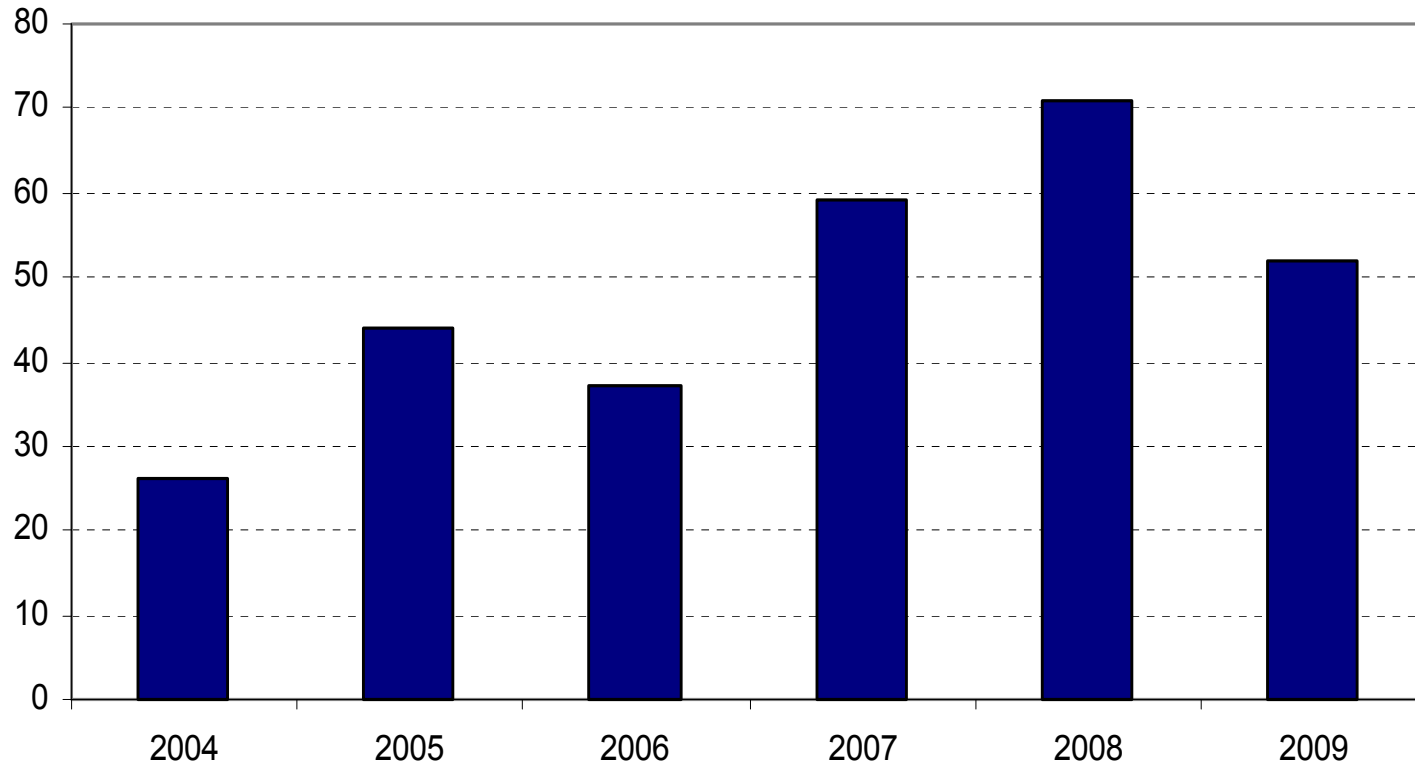
- In-licensed product revenue grew from 16% to 22% of top-ten drug company revenues from 1996 – 2001
- Pharma companies spent \$2.8 billion on biotech in-licensing deals in 2001 (Datamonitor)
- The number of in-licensing deals quadrupled from 1996-2001 (IMS Health)

What's being done?

- Stronger IP protection
- Medicare drug benefit increases patient access
- In-licensing: Additional revenues offset lower profitability and may improve ROI
- Cost efficiencies
- Drug development efficiencies
- Outsourcing (CAGR 15.5% '03-'08)
- Signs of pipeline productivity increases



NDA Filings for Top Drug Companies (2004–2009)



Source: Company reports and FBR Research



Drug Pipeline Productivity

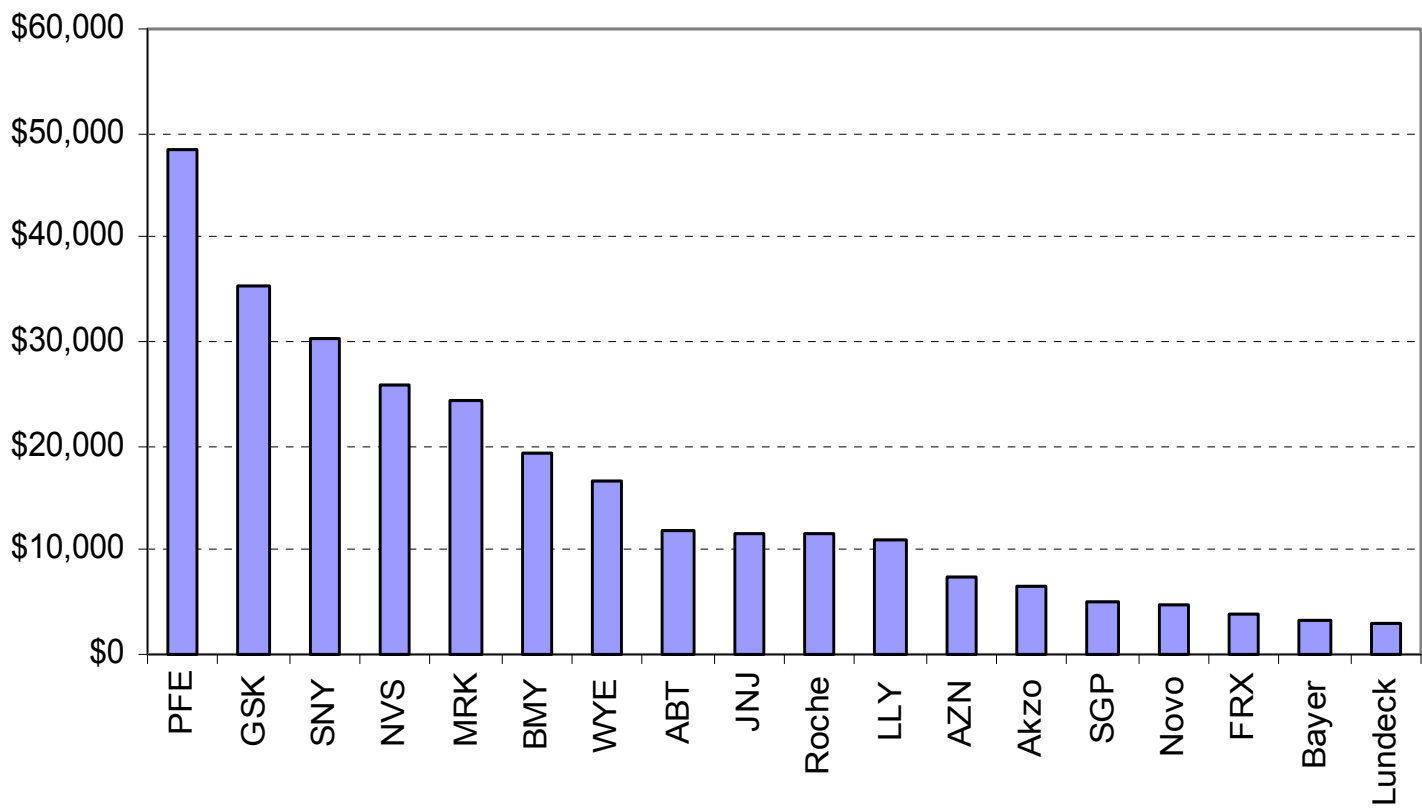
(year-over-year change)

Company	Pipeline NPV (millions)	Phase III	Phase II	Total	2004 Launches
ABT	\$5,839	-1	-2	-3	0
GSK	\$5,602	8	28	36	1
Roche	\$5,287	2	1	3	0
WYE	\$4,620	-1	-2	-3	1
JNJ	\$4,369	2	1	3	0
BMY	\$4,273	2	1	3	1
Akzo Nobel/Organon	\$2,976	4	-3	1	0
FRX	\$2,204	1	0	1	0
SNY-AVE	\$1,327	3	11	14	3
MRK	\$1,173	2	-4	-2	1
NVS	\$1,152	4	3	7	1
NVO	\$1,037	1	-1	0	0
Bayer	\$682	-2	-2	-4	0
Lundbeck	\$384	1	-1	0	0
SGP	-\$882	0	2	2	1
AZN	-\$3,951	0	1	1	0
LLY	-\$15,547	0	-1	-1	3
PFE	-\$25,900	-1	10	9	3
Total change	-\$5,356	25	42	67	15

Source: Company reports and FBR Research



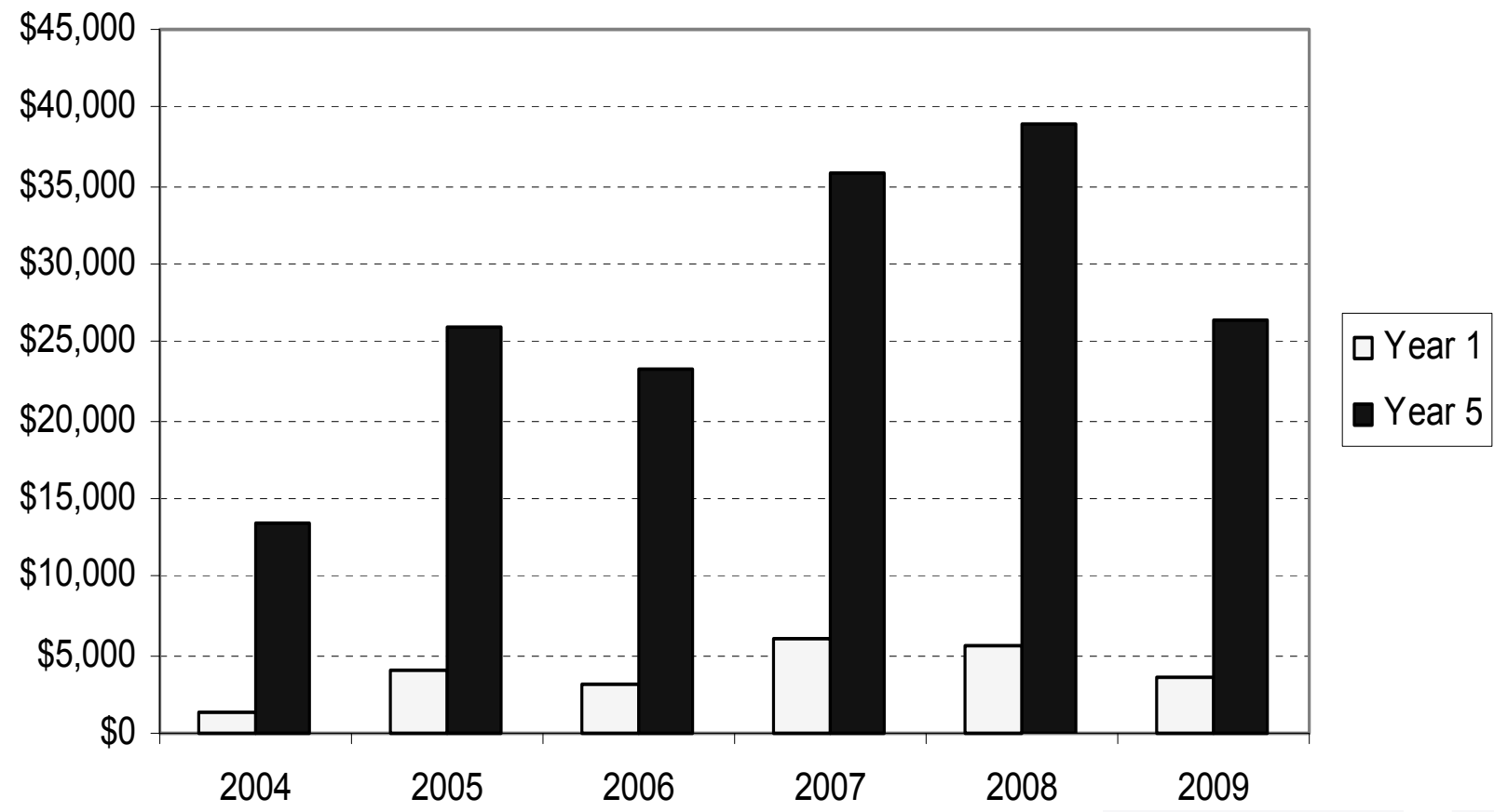
Estimated Drug Development Pipeline NPV by Company (avg. 19% of total market cap)



Source: Company reports and FBR Research



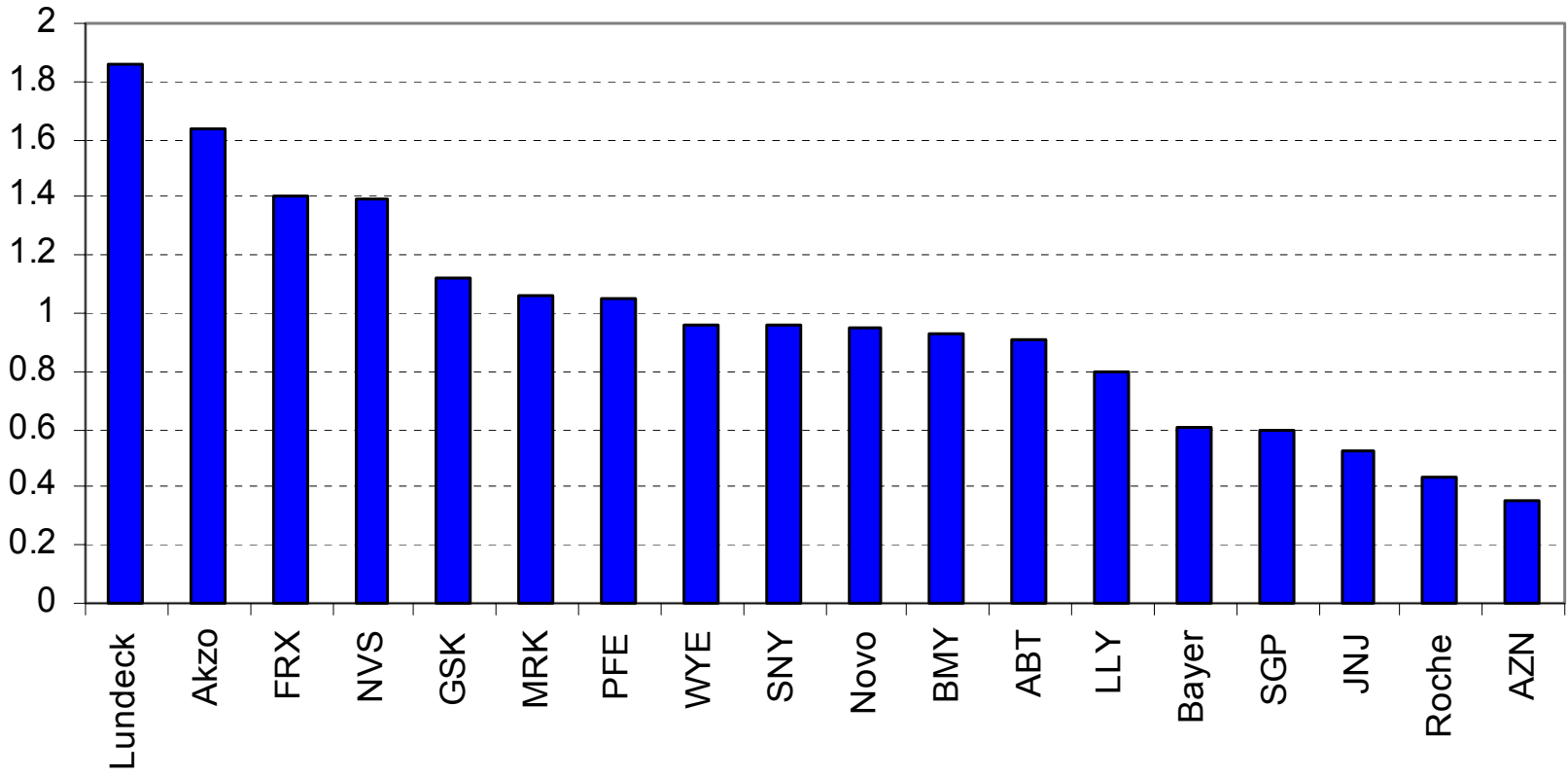
Estimated Sales Following Launch of Products Filed in the Specified Year after Year 1 and Year 5



Source: Company reports and FBR Research



Ratio of Estimated Drug Company Pipeline NPV to 2004 Sales



Source: Company reports and FBR Research



Estimated Present Value of Drug Industry Revenues from the Medicare Rx Drug Benefit

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Sales estimates with Part D Benefit										
Total U.S. Rx expenditures (billions)	192.7	210.03	228.99	253.70	277.07	303.53	331.94	362.95	396.51	436.86
Normal Growth rate	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%
Demographic growth 65+	1.0%	1.1%	1.2%	1.5%	2.4%	1.9%	1.8%	1.6%	3.9%	3.2%
Medicare bill increment in drug spending			1.7%							
Discount rate	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
2004 dollars	192.7	190.94	189.25	190.61	189.24	188.47	187.37	186.25	184.98	185.27
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Without Part D Benefit										
Total U.S. Rx expenditures (billions)	192.7	210.03	228.99	249.81	272.82	298.87	326.85	357.38	390.43	430.16
Normal Growth rate	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%	8.6%
Demographic growth 65+	1.0%	1.1%	1.2%	1.5%	2.4%	1.9%	1.8%	1.6%	3.9%	3.2%
Medicare bill increment										
Discount rate	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
2004 dollars	192.7	190.94	189.25	187.69	186.34	185.57	184.50	183.39	182.14	182.43
Medicare Rx Impact (billions)				\$ 2.92	\$ 2.90	\$ 2.89	\$ 2.88	\$ 2.86	\$ 2.84	\$ 2.84

Est. PV of Additional Sales From Drug Benefit \$20.13 billion

**Based on FBR estimates*

Total U.S. Rx expenditures (billions) based on NDC Health retail estimates of \$235B in 2004 less 18% to allow for manufacturer discounts and rebates (18% est. discount is based on retail \$ from NDC compared with actual company reported sales on select products).

Source: FBR Research, NDC Health, and CMS



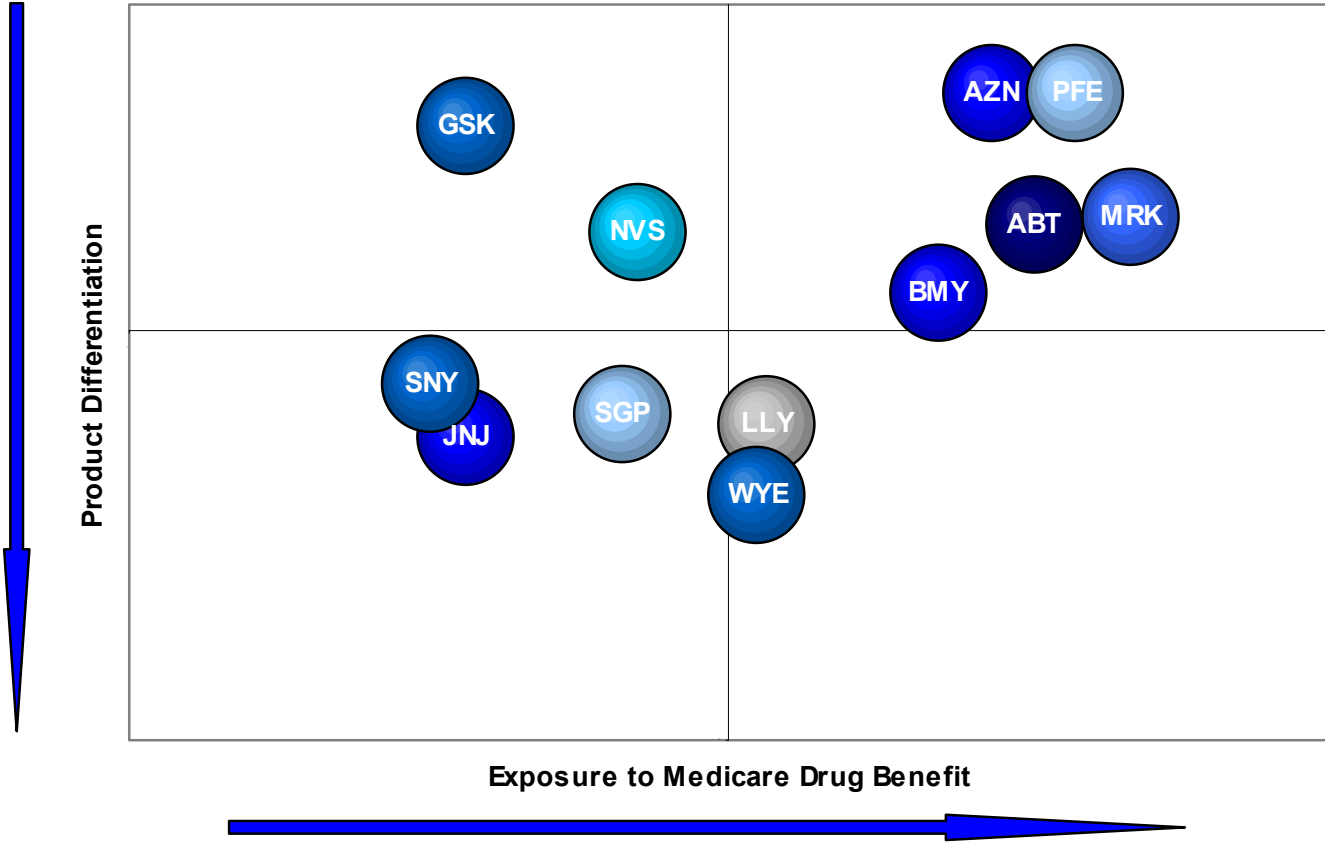
Medicare Spending Estimates (2005–2014)

	2005	2006	2010	2012	2014
Spending as a % of GDP	2.7%	3.3%	3.5%	3.7%	4.0%
Spending as a % of NHE	17.2%	20.4%	20.2%	20.3%	20.8%
Spending as a % of U.S. General Revenues	36.8%	42.8%	44.5%	45.6%	47.9%

Source: 2005 Annual Report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Fund; CMS, Office of the Actuary, National Health Statistic Group, February 2005; FBR Research



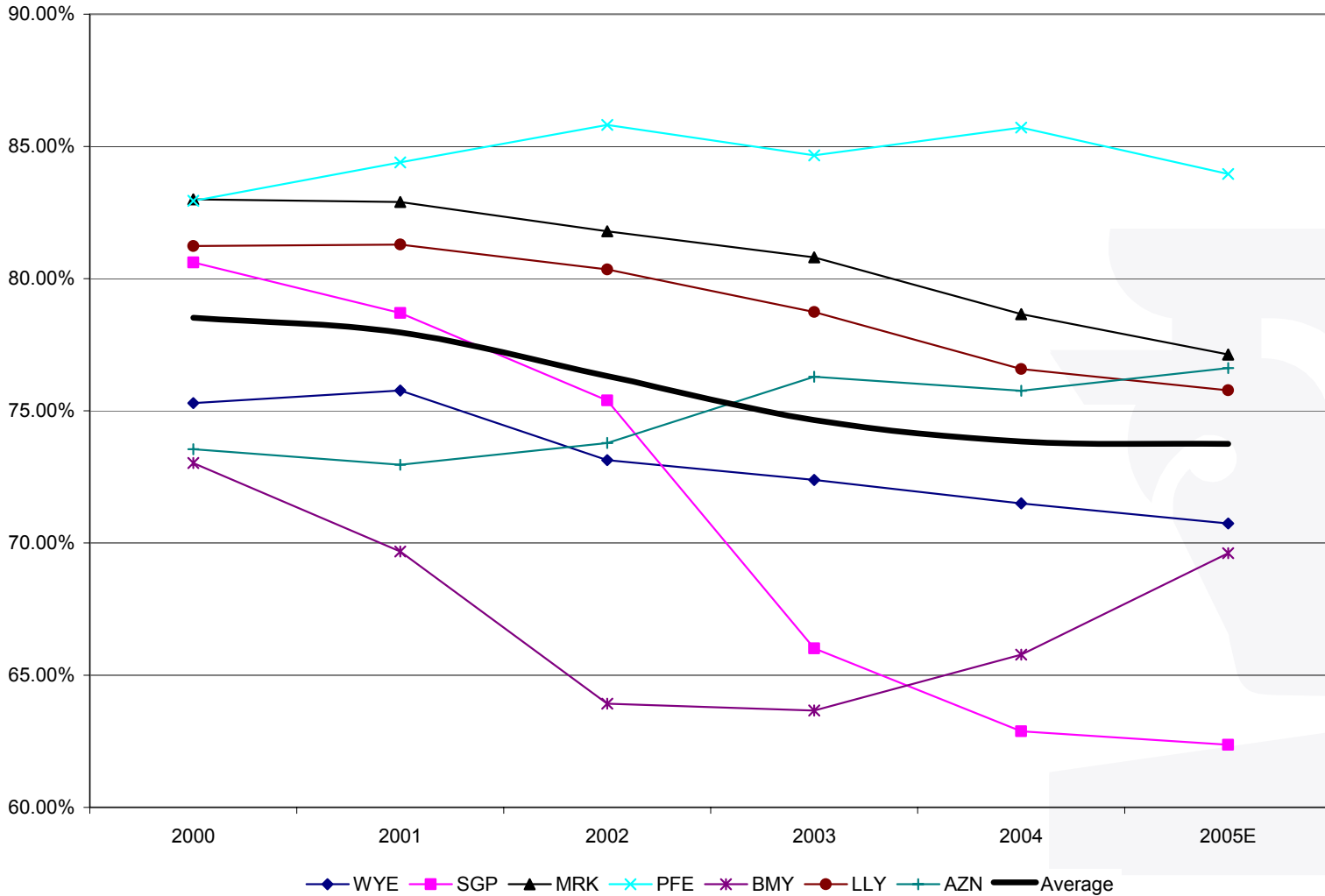
Medicare Drug Benefit—Exposure and Opportunity Index for Major Pharma



Source: Company reports and FBR Research

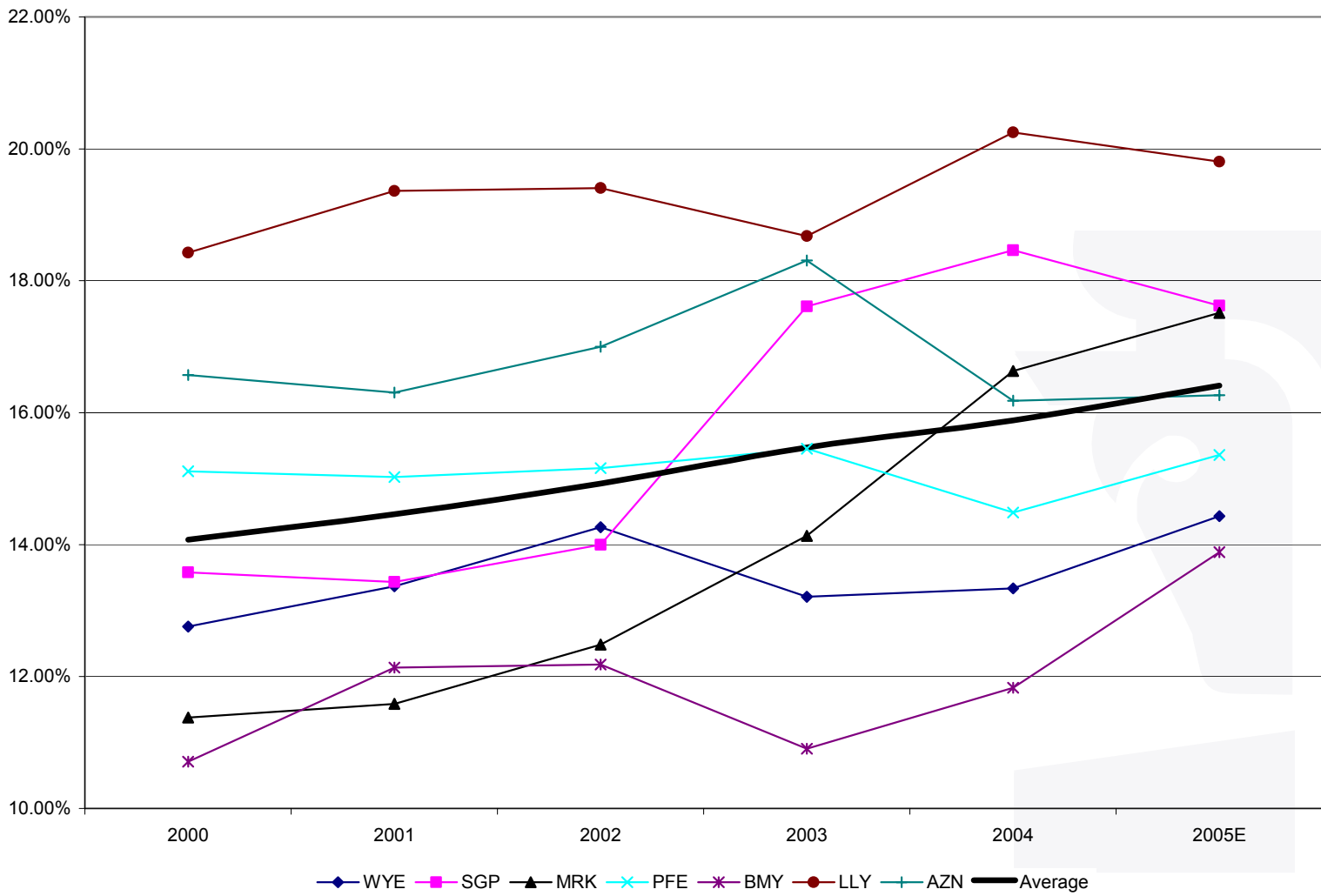


Major Pharma SG&A expense as a % of Sales



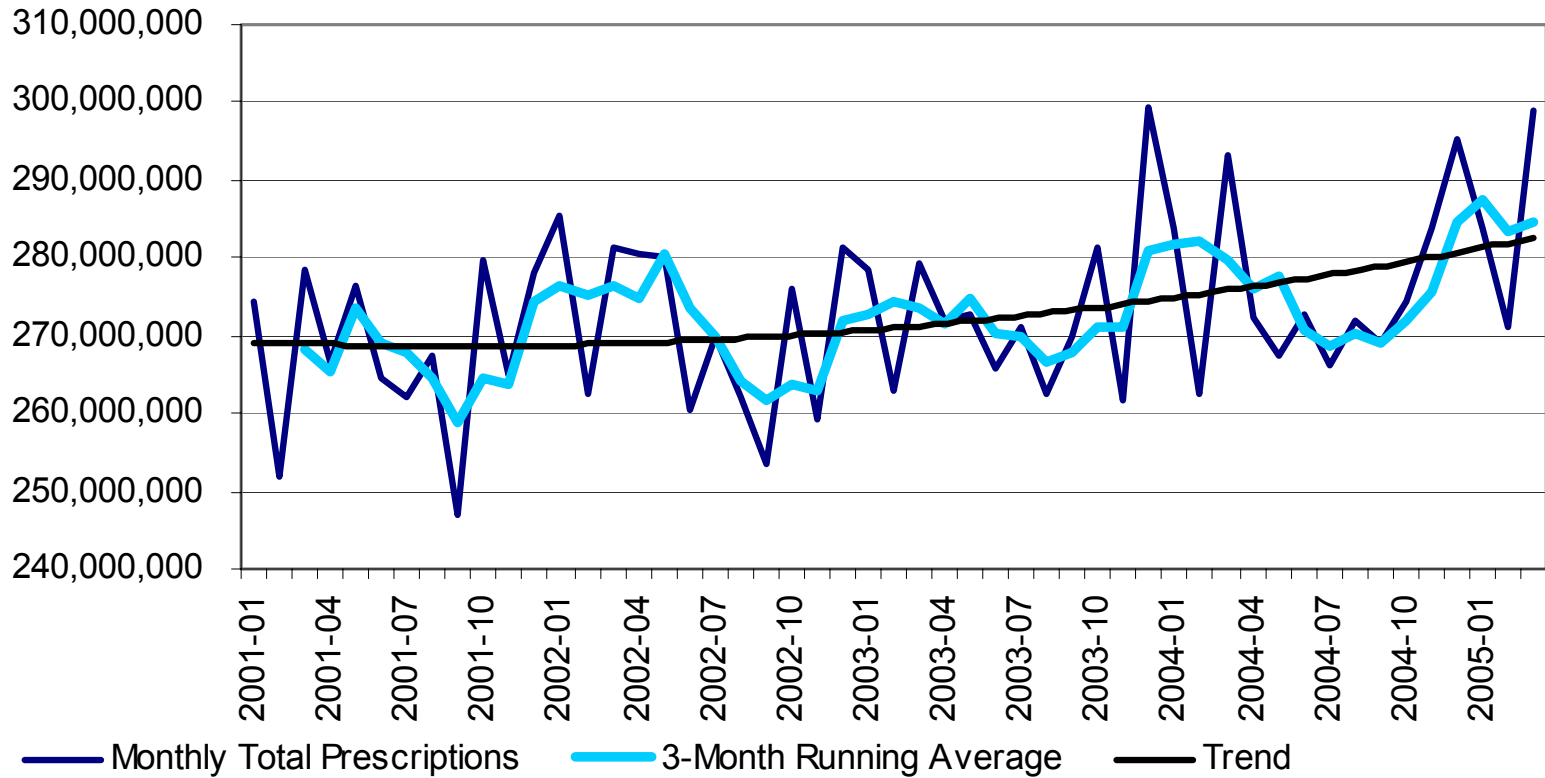


Major Pharma R&D expense as a % of Sales





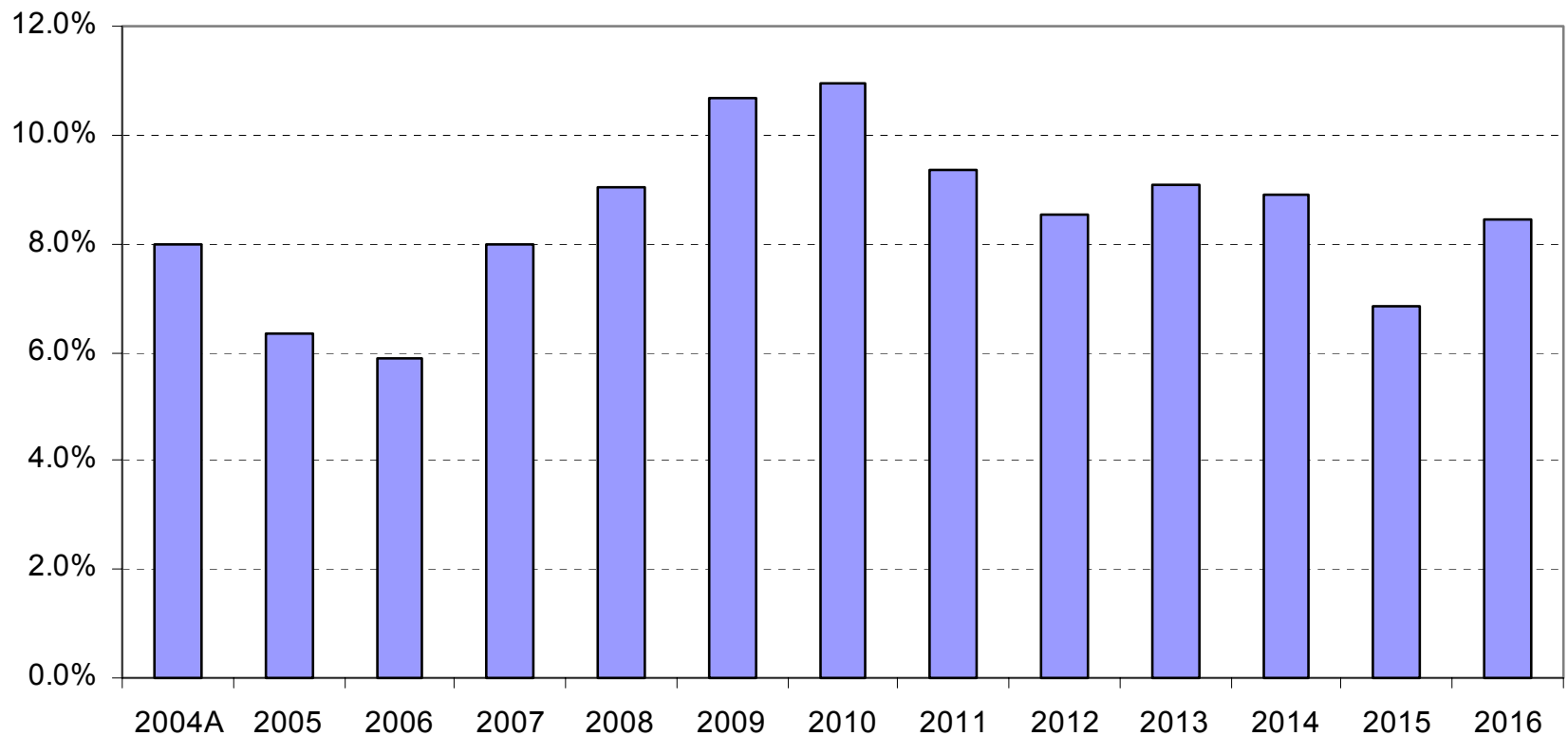
Total Prescriptions (U.S.)



Source: NDC Health and FBR Research



Estimated Global Sales Growth for Top Drug Companies (2004–2016)



Source: Company reports and FBR Research



Trade-offs Likely To Accompany Restored Financial Strength

- Sales growth recovery anticipated after 2006
- Aging populations, improved access, baby boomers
- Gross margins likely to continue to decline due to patent losses, Medicare pricing, in-licensing, global penetration
- Profitability remains under pressure, R&D and cost efficiencies will be relied upon
- Pharmacoeconomic arguments will become more important, proof of value to patients
- New business model - PCP vs. Specialty
- As always - drug pipeline holds the key to long-term financial strength, on both the top and bottom lines