



# Yale SCHOOL of MANAGEMENT

## Stryker Corp. (NYSE: SYK)

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- Initiation of Coverage. We initiate coverage of Stryker Corp (SYK) with an Overweight rating.
- Macro trends support core business. The increasing age and unhealthiness of the overall U.S. population will drive long-term demand for SYK's core orthopedics business.
- P/E multiples imply mis-pricing. The market is currently awarding the same P/E multiple (~18) to all devices players regardless of growth outlook. For example SYK (20% projected EPS growth) and Becton-Dickinson (10%) have the same P/E.
- Conservative valuation produces "Overweight." Our DCF valuation produced an intrinsic equity value of \$18.7 billion (current market cap = \$17.8 billion) with conservative estimates for growth, beta, and profitability.



### RECOMMENDATION

*Overweight*

Target Value: **\$18.7B**

Target Price: **\$46.00**

Market Cap: **\$17.8B**

Current Price: **\$43.81**

Total Return to Target: **5%**

Please see important disclaimer at the end of this report for important info.

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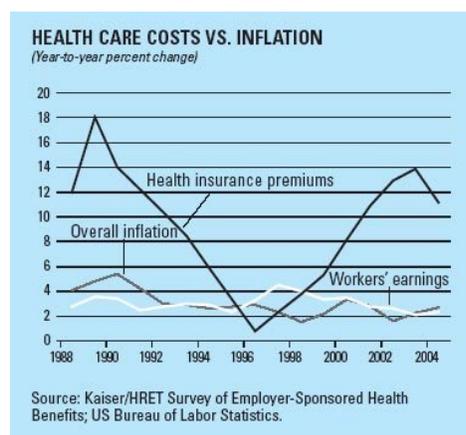
## BUSINESS MODEL SUMMARY

Stryker is a leading manufacturer in the global medical devices and orthopedics market. The company operates in three business segments: Orthopedic Implants, Medical Surgical Equipment, and Physical Therapy Services. Orthopedic implants account for 59% of company sales. Orthopedic implants are used in joint replacement, spinal surgery, craniomaxillofacial surgery, and trauma. Medical surgical or Medsurg equipment accounts for 36% of Stryker's sales. The Medsurg equipment segment manufactures and sells surgical navigation, endoscopic, and digital imaging systems. The physical therapy segment accounts for only 5% of Stryker's overall sales and primarily deals with outpatient services such as rehabilitation for physical injuries. Stryker was founded in 1941 by Dr. Homer Stryker and is headquartered in Kalamazoo, Michigan.

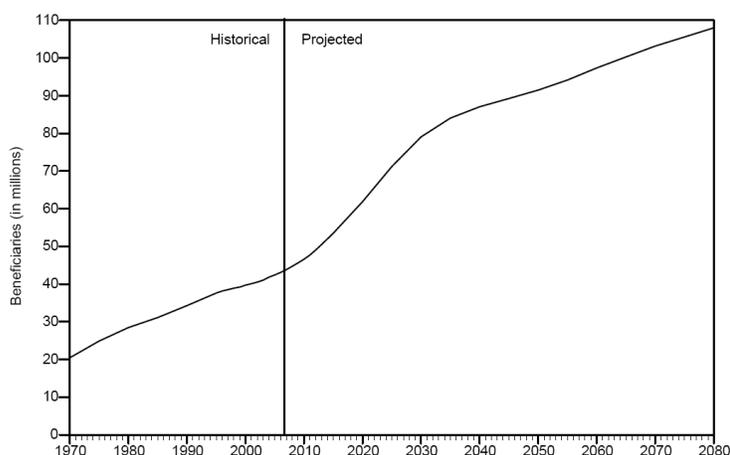
## ENVIRONMENTAL ANALYSIS

The two key environmental factors, demographics/macroeconomics and pricing pressure, have a ying-and-yang relationship. Demographic shifts and macro trends will fuel demand for healthcare spending, while payers (e.g. insurance companies, Medicaid, and Medicare) and providers (e.g. hospitals and outpatient facilities) respond by seeking ways to minimize spending.

*Demographic and macroeconomic trends support growth.* As demographic shifts further strain the U.S. healthcare system continued high levels of healthcare inflation are inevitable. Although U.S. healthcare inflation is decelerating, it continues to outpace overall inflation. This translates into continued high levels of spending on all medical devices. Additionally, SYK's core market of elderly patients is growing relative to the general population in both the U.S. and Japan, another key medical devices market. Additionally, the increasing unhealthiness of the U.S. population will reduce the average age of a SYK patient, i.e. overweight people need joint replacements sooner than healthy people. This will enable SYK to capture a larger portion of its potential income sooner, which effectively reduces the amount of discounting applied to future cash flows.



Source: Standard & Poor's



Source: www.medpac.gov

*Competition intensifies as bill-payers respond to healthcare inflation.* Large buyers of medical goods and services have substantial power within the industry. Continued cost containment pressure from providers (e.g. hospitals) and payers (e.g. Medicare, managed care organizations) will continue to place downward pressure on prices. Economies of scale generated by the larger players will give them a cost advantage and better equip them to compete in this environment.

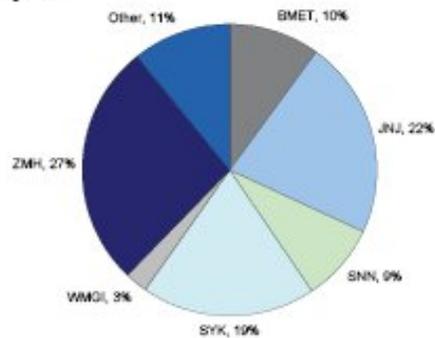
## SEGMENT ANALYSIS

	2005		2004		2003	
	\$	%	\$	%	\$	%
<b>Business Segment Sales:</b>						
Orthopedic Implants	\$2,855.1	59%	\$2,562.5	60%	\$2,192.5	61%
MedSurg Equipment	1,753.8	36	1,454.9	34	1,209.8	33
Physical Therapy Services	262.6	5	244.9	6	223.0	6
Total net sales	\$4,871.5	100%	\$4,262.3	100%	\$3,625.3	100%
<b>Domestic/international sales:</b>						
Domestic	\$3,165.6	65%	\$2,753.0	65%	\$2,333.4	64%
International	1,705.9	35	1,509.3	35	1,291.9	36
Total net sales	\$4,871.5	100%	\$4,262.3	100%	\$3,625.3	100%

### Orthopedic Implants

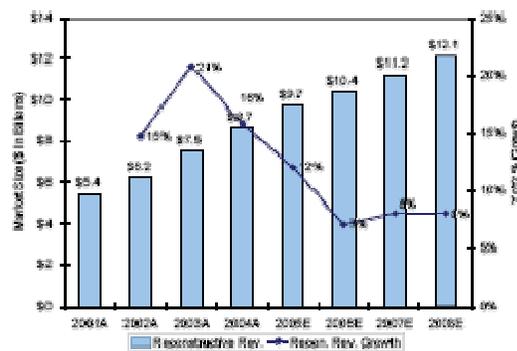
The orthopedic segment of the business primarily includes reconstructive joint implants, spinal implants, orthobiologics, trauma implants, arthroscopy instruments, and soft tissue repair instruments and implants.

**Figure 11: 2004 Reconstructive Implant Market By Competitor**



Source: Company reports, Knowledge Enterprises, and Wachovia Capital Markets, LLC estimates

**Figure 10: Reconstructive Market Size And Growth Forecast**



Source: Company reports, Frost & Sullivan, Knowledge Enterprises, and Wachovia Capital Markets, LLC estimates

Reconstructive joint implants – The majority of reconstructive joint implants sold are for knee and hip replacement though they do sell shoulder and elbow implants as well. Artificial joints are made of cobalt chromium, titanium alloys, ceramics, or ultra-high molecular weight polyethylene, and are implanted in patients whose natural joints have been damaged by arthritis, osteoporosis, other diseases, or injury.

Spinal implants – Stryker manufactures products for cervical and lumbar injuries, ailments and degenerative conditions. Spinal implant products comprise plates, rods, screws, connectors, spacers and cages, along with proprietary implant instrumentation. In 2004, Stryker purchased SpineCore, a developer of artificial lumbar and cervical discs which won't be available for sale on the market until late in 2007 or sometime in 2008.

Orthobiological - This division sells Simplex bone cement, a material used to secure cemented implants to bone. Simplex is the most widely used bone cement in the world. Stryker also sells the OP-1 Growth Device which is composed of recombinant human osteogenic protein-1 (OP-1) and a collagen matrix. The product induces the formation of new bone when implanted into existing bone, and is approved to treat long bone fractures in patients where the use of autograft treatments has failed or is not a feasible option. Stryker continues to develop OP-1 for spinal indications, including spinal stenosis.

Trauma implants - Stryker also sells trauma-related products, used primarily in the fixation of fractures resulting from sudden injury, and including internal fixation devices such as nails, plates and screws, and external fixation devices such as pins, wires and connection bars.

### *Medsurg Equipment*

Medsurg equipment consists of surgical equipment, surgical navigation systems, endoscopic digital imaging systems, and patient handling equipment. A 2004 survey by the Health Care Financing Management Association showed that hospital CFOs expect capital spending to increase an average of 14% per year between 2004 and 2009 (Instruments, beds, cameras etc.).

Surgical Equipment - Stryker Instruments offers a broad line of surgical, neurological, ENT and interventional pain equipment that is used by all surgical specialties for drilling, burring, rasping or cutting bone in small bone orthopedics, neurosurgical, spine and ENT procedures; wiring or pinning bone fractures; and preparing hip or knee surfaces for the placement of artificial implants.<sup>1</sup>

Surgical Navigation Systems – Surgical navigation systems are manufactured and designed for use by surgeons to more accurately execute procedures. Stryker has a vested interest in keeping surgical operations as simple and precise as possible for surgeons in order that they feel comfortable using Stryker's implants and equipment.

Endoscopic, Communications and Digital Imaging Systems - Stryker Endoscopy has established a position of leadership in the production of medical imaging video technology and accessories for minimally invasive surgery, as well as communications equipment to facilitate local and worldwide sharing of medical information between operating rooms, doctors' offices and teaching institutions. Products

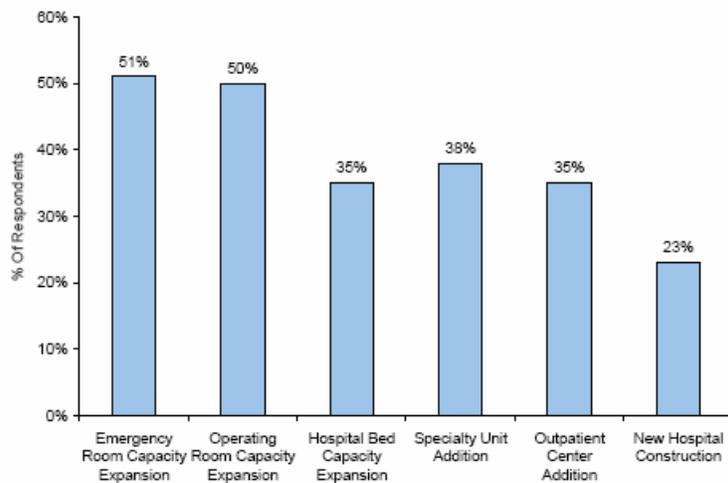
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<sup>1</sup> Stryker Annual Report 2005 – form 10-k

include medical video cameras, digital documentation equipment, digital image and viewing software, arthroscopes, laparoscopes, powered surgical instruments, sports medicine instrumentation, radio frequency ablation systems, irrigation fluid management systems, i-Suite operating room solutions and state-of-the-art equipment for telemedicine and enterprise-wide connectivity.<sup>2</sup>

**Patient Handling and Emergency Medical Equipment** – Stryker manufactures customized stretcher solutions for different patient handling needs. It also manufactures a variety of hospital beds and cribs. In an effort to cut costs hospitals are actually willing to pay premium prices for beds and stretchers that reduce required manpower to operate them.

Figure 21: Capital Spending Projects Frequently Cited By Hospital CFOs, 2004



Source: Healthcare Financial Management Association, Financing The Future Report

Stryker currently has a 33% market share in the patient handling business and looks to benefit from the increased capital spending of hospitals for the foreseeable future. As hospitals have seen increased traffic over the years and are operating at or near capacity, they will continue to spend money on patient handling equipment. We feel that Stryker is well positioned to take advantage of this industry trend with over 25 models of beds, cribs and stretchers (three of which are shown below).



<sup>2</sup> Ibid

### *Physical Therapy Services and Other*

Stryker's physiotherapy unit provides physical, occupational and speech therapy to patients recovering from orthopedic injury or neurological illness. This unit operates with 374 locations in 25 states but only accounts for 5% of the company's revenues.

## COMPETITIVE FORCES ANALYSIS

### SUPPLIER POWER - *LOW*

Stryker produces and manufactures its products and tools from a variety of different sources. The company spent only approximately 9% of its cost of goods sold on finished products from outside suppliers. It does however purchase many unfinished goods from suppliers and assemble them in house. Expenditures on unfinished goods represented approximately 44% of the company's cost of goods sold in 2005. As there are many suppliers for a variety of products the suppliers do not have a great deal of pricing power or leverage with Stryker. Stryker has not had any significant supply problems in the past and it is safe to assume that there shouldn't be any in the future.

### BUYER POWER – *MEDIUM to HIGH*

Stryker and the rest of the medical devices and equipment makers have enjoyed a long period of pricing power and healthy price increases. Traditionally surgeons and doctors have had the power to decide which products would be purchased and used. As such, the sales forces in this industry played an integral part in the success of the overall company and they were paid accordingly. The primary trend from both payers and providers, however, is cost containment. This issue is getting a lot of press in the industry not only because this is happening in the U.S. (where Stryker generates two-thirds of its revenue) but it is also an ongoing concern for the Japanese business abroad as well. However, there are limits to cost containment strategies. Most surgeons are extremely reluctant to risk sacrificing the quality of care, and payers' strategies focus on minimizing expense per procedure but not volume of procedures. We believe that current market prices reflect an unnecessarily high discount for pricing pressure, i.e. we believe that there is still a substantial gap between payers/providers' desire to cut cost and their ability to cut costs, as evidenced by the fact that healthcare costs have outpaced general inflation for the past decade.

### INDUSTRY COMPETITION – *HIGH*

In the orthopedic implant business there are five major competitors (JNJ, ZMH, BMET, SNN, and WMGI) and many smaller ones as well; it is rare for any one company in the medical devices industry to have greater than 40% market share for any one particular product. Stryker's Medsurg business competes with over twenty different companies large and small. In order to compete and succeed in this industry a company must either internally develop product and technology innovations or acquire the innovations of other competitors. However, due to the high costs and risks associated with acquisitions, the most successful med devices players are usually the

ones with the best in-house R&D. Stryker has proven capabilities in R&D (as evidenced by its very low historical purchased in-process R&D expenses) and continues to stress this going forward.

#### SUBSTITUTES - *LOW*

The primary substitutes for orthopedic implants are doing nothing and making lifestyle changes, i.e. if a patient elects not to have an implant then he/she will most likely either suffer through the pain, accept a reduced range of activities, or make other health choices (e.g. losing weight) that enable him/her to avoid the surgery. However, as implants improve in quality and ease of installation the benefits will increase while risks decrease, thus fueling demand. Additionally, the very physically active baby boomers will be highly reluctant to accept limited lifestyles as they move into their elderly years.

#### BARRIERS TO ENTRY – *LOW TO MEDIUM*

The primary barrier to entry is physician confidence in given company's product(s). Although a well-financed company can enter the market for almost any product, without a proven track record in medical devices or related products a manufacturer will face a steep adoption curve among physicians. However, since Stryker's businesses are neither life-threatening nor life-saving (unlike the market for heart implants and defibrillators where any malfunction can result in a stroke or death) there is a lower level of potential physician liability for choosing one product over another. As such, the adoption curve for orthopedic implants is much less steep than for other more severe devices.

#### GOVERNMENT FORCES – *HIGH*

The U.S. and other foreign governments play a critical role in the health of the industry as a whole. Governments control the power of the purse and decide to what extent products will be reimbursed (Medicare and Medicaid). For example, it was recently announced that the reimbursement rates for ICD's and pacemakers would be cut. Shares of STJ and MDT promptly sold off and this triggered a ripple effect throughout the rest of the industry.

#### SUMMARY OF COMPETITIVE FORCES

The medical devices industry is highly competitive and it is extremely difficult to build a dominant position in this field. Though it appears that many of the industry forces are unfavorable, it should also be noted that Stryker has an extraordinary track record of delivering high quality results on a consistent basis. Moreover, we feel that the macroeconomic trends of higher demand driven by the baby boomer generation more than offset the challenges that this industry faces.

#### PRODUCT PRICING PRESSURE

As mentioned above in the Buyer Power segment of this note, there has been a pervasive concern on Wall Street that the medical devices industry will see downward pressure on the prices of its products as a result of two factors. The most important and widely discussed negative catalyst for the industry is a cutback in the reimbursement rates to hospitals from the Centers for Medicaid and Medicare Services (CMS). There has been speculation that CMS will look to reduce the

reimbursement rates of the orthopedic implant makers but it is unclear at this point. This information is expected to be released soon and once there is some clarity it could greatly reduce the level of uncertainty in this industry.

The second potential negative catalyst for product prices is a pushback from hospitals. As stated in the Buyer Power section of the competitive forces, hospitals will become more cost conscious as they find it harder to earn profits. This particularly affects the MedSurg segment of SYK's business, which produces high-tech surgical and imaging systems. High-tech durable devices are traditionally owned by the hospital (which usually struggle financially), not the physician groups (which are often highly profitable).

It is our opinion that regardless of product prices Stryker has some promising new products that should produce substantial growth that will more than offset any negative product pricing pressures this year or next.

## Growth Prospects

Triathlon Knee. Late last year Stryker began to aggressively roll out its new knee implant and knee implant surgical system named the Triathlon. The Triathlon was developed after many years of research to more closely resemble the movement of an actual knee. The Triathlon model has 150 degrees of flexion and provides more stability than prior models. Unlike other knee implants the Triathlon has a specific design for women as well as men. Traditionally knee implants were only adjusted for the size of the person and not the gender. Stryker realized, however, that the bone structure in a woman's leg is actually quite different than a man's. Women's knees tend to be not only smaller but actually have a much narrower shape. The triathlon for women was designed specifically with this in mind. And since women account for approximately 65% of all knee implant procedures Stryker should benefit enormously. Stryker has also developed a Triathlon knee system for surgeons who perform this procedure. It is a computerized imaging system that allows for great visibility and ease of use. It actually gives the surgeons a computerized fit to ensure the accuracy of the procedure which should provide comfort and assurance while reducing the liability of a faulty operation.

OP-1 is a proprietary recombinant signaling protein that is found in the human body and has multiple tissue regeneration properties. SYK has studied OP-1 extensively and is focusing on its ability to regrow bone. This field is known in the medical devices industry as BMP-7 or bone morphogenic protein. Medtronic currently has a patented form of this BMP named INFUSE. This technology can be extremely valuable in treating non-union fractures of long bones as well as regrowth of degenerative bone conditions and many other uses. SYK expects its OP-1 version to be approved by the FDA and enter the market in late 2007. Although Stryker won't be first to market with this technology it will represent another area of valuable growth for the firm.

## INVESTMENT RISKS

**Healthcare reform:** SYK faces substantial risk from both U.S. and international healthcare reform, i.e. actions taken to counteract the recent rapid inflation of healthcare costs. Government agencies such as CMS wield substantial buyer power due to their volume of purchases. Decisions to cut reimbursement rates and/or deny reimbursement for certain devices could have serious ramifications for SYK.

**Competition:** The primary competitive risk is the introduction of new products which make SYK products obsolete either by improved functionality or lower prices. Another substantial risk is exclusion from certain desirable markets resulting from competitors' patents. Additionally, consolidation among buyers is a substantial threat due to increased buyer power, while sole-sourced components present the potential for supplier hold-up.

**Geopolitical risk:** SYK operates in many countries and is subject to the rules and regulations of each respective nation. Changes in public policy, health care policy and local tax laws may all have adverse impacts upon SYK's business in the future. Additionally, SYK's earnings are subject to substantial foreign exchange rate (FX) fluctuations due to its global customer base (1/3 of revenues are international).

**Regulatory:** SYK products require approval by the FDA and other national regulatory agencies prior to their introduction. More stringent testing requirements or product specifications could adversely affect SYK's return on investment in new products. The Office of the Inspector General, Department of Health and Human Services is currently investigating the practices of the ANS business unit, and mad cow disease concerns could impact the Angio-Seal product line.

**Litigation:** The company's operating results could be negatively impacted by any past or future court decisions with respect to product liability or billing practices. In 2003, the Department of Justice subpoenaed the billing records of one of SYK's physical therapy services affiliates in Massachusetts.

**Internal:** Safety concerns related to product performance, especially with regard to recalls, could present SYK with substantial expenses and could negatively impact sales going forward. Clinical trials and marketing efforts for new products also present substantial risks.

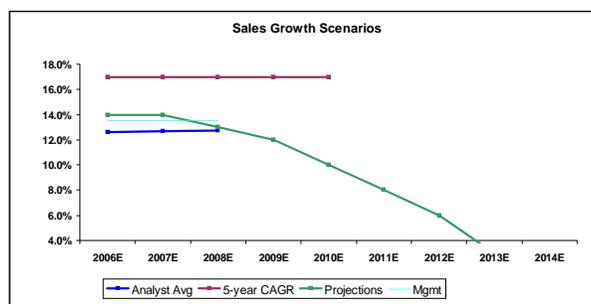
## VALUATION

### Income Statement Assumptions: (See exhibit 1: Financial Statements)

Income Statement Assumptions	2001	2002	2003	2004	2005	2006E	2007E	2008E	2009E	2010E	2011E	2012E	2013E	2014E	Assumption
Revenue Growth	16%	16%	20%	18%	14%	14.0%	14.0%	13.0%	12.0%	10.0%	8.0%	6.0%	3.0%	3.0%	
COGS as a % of Sales	37%	37%	36%	35%	35%	36%	36%	36%	36%	36%	36%	36%	36%	36%	5-year average
SG&A as a % of Sales	38%	39%	39%	39%	37%	38%	38%	38%	38%	38%	38%	38%	38%	38%	5-year average
R&D as % of Sales	5%	5%	5%	5%	6%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5-year average
Intangibles Amortization as % of Sales	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	5-year average
Purchased IPRD as % Sales	0%	0%	0%	3%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	5-year average

Sales Growth: See “Growth Prospects” above. We used a combination of management guidance, analyst estimates, historical growth, and future prospects to arrive at our projections. Management is guiding 12 - 15% growth in 2006, while the 2001 – 2005 sales CAGR is 17%. Analyst estimates are listed below:

Sales Estimates				
Analyst	Date	2006	2007	2008
A.G. Edwards	3/23/2006	5,489	6,280	
Morgan Stanley	3/23/2006	5,463	6,125	6,970
CSFB	12/22/2005	5,494	6,123	
Wachovia	12/12/2005	5,500	6,200	
	Average	5,486	6,182	6,970
	Yahoo	5,450	6,120	N/A
	Implied growth	13%	13%	13%

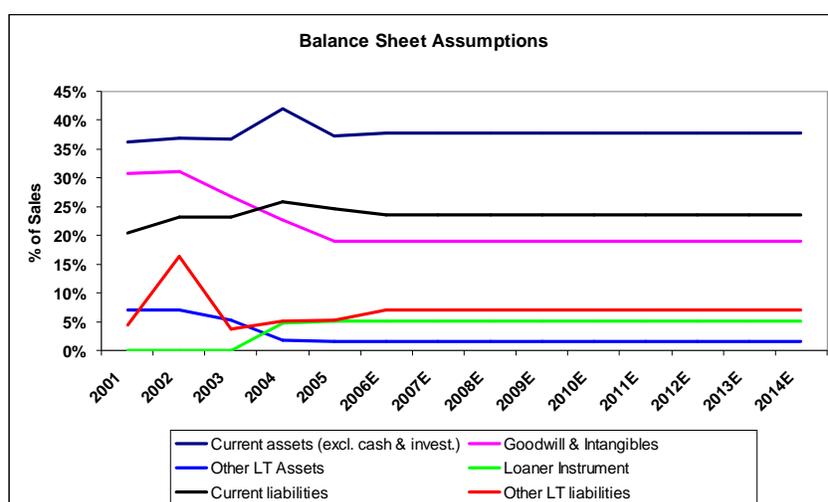


Other income statement items: Since COGS, SG&A, R&D expense, and intangibles amortization were almost perfectly constant as a percentage of sales between 2001 and 2005 we maintained them at their 5-year historical averages. We also maintained purchased in-process R&D at the average level since it was a very small percentage of sales.

## Balance Sheet Assumptions

Balance Sheet Assumptions	2001	2002	2003	2004	2005	2006E	2007E	2008E	2009E	2010E	2011E	2012E	2013E	2014E	Assumption
Cash as % Sales	2%	1%	2%	8%	10%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5-year average
S-T Inv as % Sales	0.0%	0.0%	0.0%	0.0%	11.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	Liquidated
Receivables as % Sales	13%	14%	14%	18%	16%	15%	15%	15%	15%	15%	15%	15%	15%	15%	5-year average
Inventories as % Sales	15%	14%	13%	13%	12%	13%	13%	13%	13%	13%	13%	13%	13%	13%	5-year average
Other current assets as % Sales	8%	9%	10%	11%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	5-year average
Net PP&E as % Sales	17%	17%	17%	16%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	5-year average
Goodwill as % Sales	17%	15%	14%	12%	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	2005 level
Other intangible assets as % Sales	14%	16%	13%	11%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	2005 level
Loaner Instrumentation as % Sales	0%	0%	0%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	2005 level
Other LT Assets as % Sales	7%	7%	5%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2005 level
Total current liabilities as % Sales	20%	23%	23%	26%	25%	23%	23%	23%	23%	23%	23%	23%	23%	23%	5-year average
Other LT liabilities as % Sales	4%	16%	4%	5%	5%	7%	7%	7%	7%	7%	7%	7%	7%	7%	5-year average

Balance sheet items were calculated based upon historical five year averages and held constant, unless a clear trend was observable in which case the 2005 number was held constant (See Exhibit 1: Financial Statements).

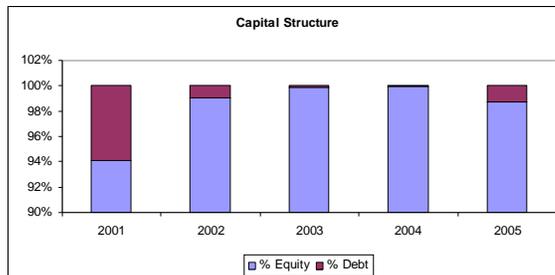


## Free Cash Flow Statement

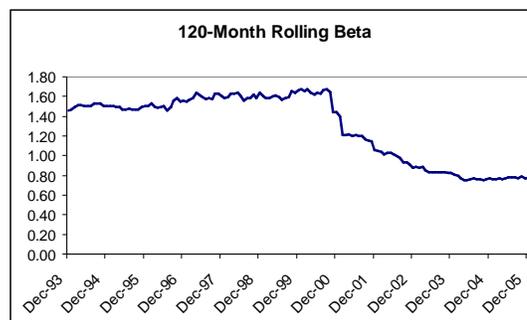
<b>Discounted Cash Flow Analysis</b>									
<b>Calculations</b>									
Tax rate	30% See note								
WACC	7.80% See WACC calculations								
Terminal Growth	3%								
Market Vale of Debt	232 BV of debt; all debt rated A								
Cost of Debt	5.75% See WACC calculations								
	<b>2006E</b>	<b>2007E</b>	<b>2008E</b>	<b>2009E</b>	<b>2010E</b>	<b>2011E</b>	<b>2012E</b>	<b>2013E</b>	<b>2014E</b>
Year	1	2	3	4	5	6	7	8	9
After-tax EBIT	746	850	958	1,072	1,178	1,269	1,342	1,377	1,413
Less: Increases in Net PP&E	(107)	(131)	(139)	(145)	(135)	(119)	(96)	(51)	(53)
Less: Increases in LT Assets (excl. PP&E)	(174)	(198)	(210)	(219)	(204)	(180)	(146)	(77)	(80)
Less: Increases in WC	612	(148)	(157)	(163)	(152)	(134)	(109)	(58)	(59)
Plus: Increases in other LT Liabilities	127	54	57	60	56	49	40	21	22
<b>Free Cash Flow</b>	<b>1,204</b>	<b>426</b>	<b>510</b>	<b>604</b>	<b>741</b>	<b>885</b>	<b>1,031</b>	<b>1,212</b>	<b>1,243</b>
<i>Free Cash Flow Check</i>	1,204	426	510	604	741	885	1,031	1,212	1,243
Present Values	1,117	367	407	447	509	564	609	665	632
Terminal Value	26,674								
PV(Terminal Value)	13,567								
<b>Enterprise Value</b>	<b>18,885</b>								
Less: (Net Debt)	<b>232</b>								
<b>Equity value</b>	<b>18,653</b>								

**Tax Rate:** The effective tax rate for the past five years has averaged 30%. This has occurred because of SYK' substantial international revenue base.

**Capital Structure:** SYK is almost entirely equity-financed. Over the past five years the company's debt represents anywhere from 0-6% of it's overall market value. Since their debt levels are negligible we can essentially use the cost of equity as our discount rate. However, in the interest of being as accurate as possible we included the cost of debt and not surprisingly it had a minimal impact on our WACC (See exhibit 2: WACC calculations).

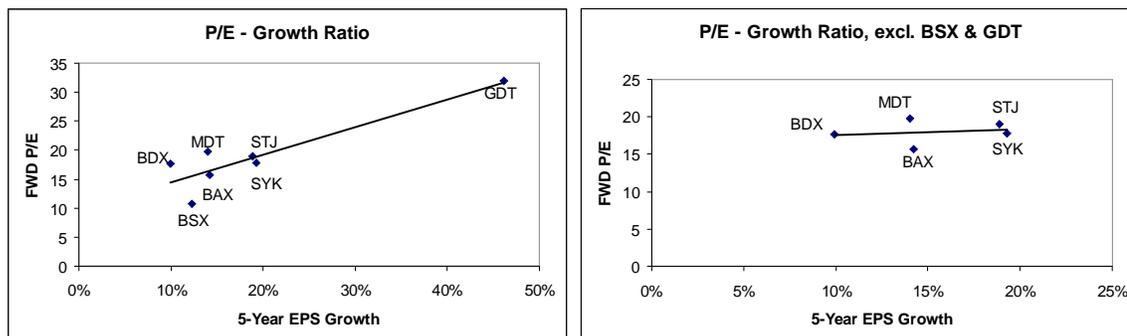


**Beta:** We ran a regression of returns for St. Jude against the excess returns of the stock market (NYSE/AMEX/NASDAQ) for the past 5 and 10 years. Our five year monthly regression registered a beta of .27 while our 10 year beta calculation equaled .77. We feel that .77 is a more realistic measure of risk for this firm and exhibits conservatism in our projections. Therefore we have chosen .77 as the beta for our WACC calculations.



**Terminal Growth:** We forecast a terminal growth rate of 3%, beginning in year 9.

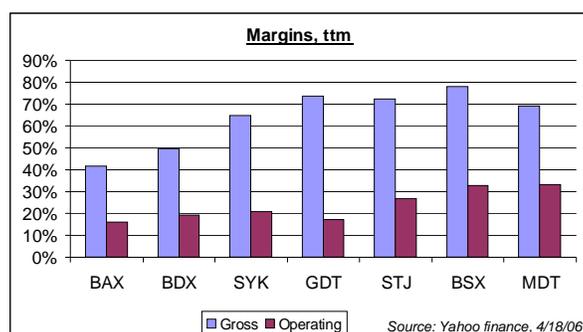
## Price-Earnings / Growth Analysis



We believe that the key insight in this analysis is that, after removing Boston Scientific (BSX) and Guidant (GDT), the best-fit line for the remaining players is essentially flat. Thus, SYK's 20% projected EPS growth is being rewarded with the same P/E multiple as BDX, which sports a 10% growth outlook. We believe that the best-fit line will rotate counter-clockwise, as the market rewards the outstanding growth prospects of SYK and STJ with higher P/E multiples. It is logical to remove BSX and GDT because BSX recently acquired GDT after beating Johnson & Johnson in a bidding war. This bidding war artificially inflated the price of GDT and depressed the price of BSX.

## Margin Analysis

As can be observed, SYK is on the lower end of the industry margin spectrum. We believe that this presents a substantial opportunity to improve profitability. SYK has historically focused on growth and has enjoyed tremendous success, as evidenced by its 17% CAGR from 2001 – 2005. As the business matures, we believe that management will pay more attention to operational issues, thus increasing profitability. We consider our model to be conservative because we did not incorporate operational improvements into our projections.



## INVESTMENT THESIS

We base our Overweight recommendation upon the following:

- Demographic and macroeconomic trends support growth.
- Pricing pressure, although substantial, will be slower to develop than the market is currently expecting. Additionally, since CMS reimbursements primarily apply only to patients over age 65, as younger people require orthopedic implants CMS will wield proportionately less pricing power.
- SYK effectively executes a disciplined, focused strategy and plays to its strengths in internal R&D.
- SYK's P/E multiple will increase as the market corrects the P/E – Growth mispricing that is currently rewarding similar P/E ratios for vastly different growth outlooks.
- Operational improvements will lead to increased profitability as the business matures.
- Our valuation is conservative in its long-term growth estimates, operational efficiency assumptions, and WACC (0.77 120-month beta vs. 0.27 60-month beta).

## Exhibit 1: Financial Statements

<b>Income Statement</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006E</b>	<b>2007E</b>	<b>2008E</b>	<b>2009E</b>	<b>2010E</b>	<b>2011E</b>	<b>2012E</b>	<b>2013E</b>	<b>2014E</b>
Sales (Net) (MMS)	2,602	3,012	3,625	4,262	4,872	5,554	6,331	7,154	8,013	8,814	9,519	10,090	10,393	10,704
Cost of Goods Sold (MMS)	964	1,111	1,312	1,510	1,714	2,008	2,289	2,586	2,896	3,186	3,441	3,647	3,757	3,870
Gross Profit	1,639	1,900	2,313	2,752	3,158	3,546	4,042	4,568	5,116	5,628	6,078	6,443	6,636	6,835
Selling, General & Admin. Expenses (MMS)	985	1,165	1,416	1,652	1,814	2,128	2,426	2,742	3,071	3,378	3,648	3,867	3,983	4,103
R&D Expense	142	141	180	211	280	287	327	369	414	455	492	521	537	553
Intangibles Amortization	38	29	45	48	49	30	35	42	50	57	65	74	83	93
Purchased In-process R&D	-	-	-	121	16	35	40	45	51	56	60	64	66	68
Restructuring charges	1	17	-	-	-	-	-	-	-	-	-	-	-	-
Other income (expense)	(134)	(81)	(42)	(9)	(4)	-	-	-	-	-	-	-	-	-
<b>EBIT (MMS)</b>	<b>606</b>	<b>629</b>	<b>713</b>	<b>730</b>	<b>1,002</b>	<b>1,065</b>	<b>1,214</b>	<b>1,369</b>	<b>1,531</b>	<b>1,682</b>	<b>1,813</b>	<b>1,917</b>	<b>1,967</b>	<b>2,019</b>
Interest Expense	68	40	23	6	8	-	-	-	-	-	-	-	-	-
Pre-tax income	538	588	690	724	994	-	-	-	-	-	-	-	-	-
Income Taxes - Total (MMS)	134	161	199	251	328	-	-	-	-	-	-	-	-	-
Extraordinary Items	(5)	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Net Income</b>	<b>400</b>	<b>427</b>	<b>491</b>	<b>473</b>	<b>666</b>									
ROIC		26%	31%	22%	24%	21%	28%	28%	28%	27%	26%	26%	25%	25%
<b>Income Statement Assumptions</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006E</b>	<b>2007E</b>	<b>2008E</b>	<b>2009E</b>	<b>2010E</b>	<b>2011E</b>	<b>2012E</b>	<b>2013E</b>	<b>2014E</b>
Revenue Growth	16%	20%	18%	14%	14%	14.0%	14.0%	13.0%	12.0%	10.0%	8.0%	6.0%	3.0%	3.0%
COGS as a % of Sales	37%	37%	36%	35%	35%	36%	36%	36%	36%	36%	36%	36%	36%	36%
SG&A as a % of Sales	38%	39%	39%	39%	37%	38%	38%	38%	38%	38%	38%	38%	38%	38%
R&D as % of Sales	5%	5%	5%	5%	6%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Intangibles Amortization as % of Sales	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Purchased IPRD as % Sales	0%	0%	0%	3%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%

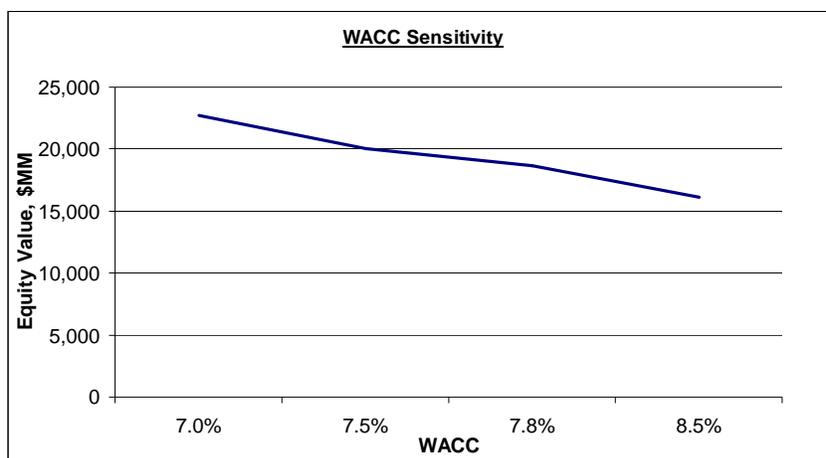
<b>Balance Sheet</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006E</b>	<b>2007E</b>	<b>2008E</b>	<b>2009E</b>	<b>2010E</b>	<b>2011E</b>	<b>2012E</b>	<b>2013E</b>	<b>2014E</b>
Cash	50	38	66	349	491	259	295	333	373	410	443	470	484	498
Short-term inv	-	-	-	-	565	-	-	-	-	-	-	-	-	-
Receivables - Total (MMS)	332	407	499	751	770	816	930	1,051	1,177	1,295	1,398	1,482	1,527	1,573
Inventories - Total (MMS)	400	427	468	553	564	744	848	958	1,073	1,180	1,275	1,351	1,392	1,434
Current Assets - Other (MMS)	211	280	365	490	480	542	618	699	782	861	930	985	1,015	1,045
<b>Total Current Assets</b>	<b>993</b>	<b>1,151</b>	<b>1,398</b>	<b>2,143</b>	<b>2,870</b>	<b>2,360</b>	<b>2,691</b>	<b>3,041</b>	<b>3,406</b>	<b>3,746</b>	<b>4,046</b>	<b>4,289</b>	<b>4,417</b>	<b>4,550</b>
Net PP&E	444	519	605	701	831	938	1,070	1,209	1,354	1,489	1,608	1,705	1,756	1,809
Goodwill	434	460	493	506	513	585	667	754	844	929	1,003	1,063	1,095	1,128
Other Intangible Assets	368	475	472	457	410	467	532	602	674	741	801	849	874	900
Loaner Instrumentation, net	-	-	-	202	246	280	319	361	404	444	480	509	524	540
Other LT Assets	184	210	191	75	75	85	97	109	123	135	146	154	159	164
<b>Total Assets (MMS)</b>	<b>2,424</b>	<b>2,816</b>	<b>3,159</b>	<b>4,083</b>	<b>4,944</b>	<b>4,716</b>	<b>5,376</b>	<b>6,075</b>	<b>6,804</b>	<b>7,484</b>	<b>8,083</b>	<b>8,568</b>	<b>8,825</b>	<b>9,090</b>
Current Liabilities (non-interest bearing)	532	697	843	1,104	1,201	1,304	1,486	1,680	1,881	2,069	2,235	2,369	2,440	2,513
Other LT Liabilities (non-interest bearing)	113	491	135	218	259	387	441	498	558	613	663	702	723	745
Long-Term Debt - Total (MMS)	723	130	26	10	232	-	-	-	-	-	-	-	-	-
<b>Total Liabilities (MMS)</b>	<b>1,367</b>	<b>1,317</b>	<b>1,004</b>	<b>1,332</b>	<b>1,692</b>	<b>1,690</b>	<b>1,927</b>	<b>2,178</b>	<b>2,439</b>	<b>2,683</b>	<b>2,897</b>	<b>3,071</b>	<b>3,163</b>	<b>3,258</b>
<i>Debt + Equity (Plug)</i>						3,025	3,449	3,897	4,365	4,801	5,185	5,497	5,661	5,831
Common Equity + APIC	103	141	190	258	320	-	-	-	-	-	-	-	-	-
Retained Earnings	1,121	1,443	1,868	2,298	2,928	-	-	-	-	-	-	-	-	-
Other Equity	(167)	(85)	97	196	4	-	-	-	-	-	-	-	-	-
<b>Total Stockholders' Equity (MMS)</b>	<b>1,056</b>	<b>1,498</b>	<b>2,155</b>	<b>2,752</b>	<b>3,252</b>									
<b>Total Liabilities and Stockholders' Equity</b>	<b>2,424</b>	<b>2,815</b>	<b>3,159</b>	<b>4,084</b>	<b>4,944</b>	<b>4,716</b>	<b>5,376</b>	<b>6,075</b>	<b>6,804</b>	<b>7,484</b>	<b>8,083</b>	<b>8,568</b>	<b>8,825</b>	<b>9,090</b>

<b>Performance Metrics</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005E</b>	<b>2006E</b>	<b>2007E</b>	<b>2008E</b>	<b>2009E</b>	<b>2010E</b>	<b>2011E</b>	<b>2012E</b>	<b>2013E</b>	<b>2014E</b>
Accounts Receivable Turnover	7.84	8.15	8.01	6.82	6.40	7.00	7.25	7.22	7.19	7.13	7.07	7.01	6.91	6.91
Days Sales Outstanding	47	45	46	54	57	52	50	51	51	51	52	52	53	53
Inventory turns	2.4	2.7	2.9	3.0	3.1	3.1	2.9	2.9	2.9	2.8	2.8	2.8	2.7	2.7
Days Inventory Outstanding	151	136	124	123	119	119	127	127	128	129	130	131	133	133

## Exhibit 2: WACC Calculations

<b>WACC Calculations</b>	
10-year T-note	5.00% As of 4/17/06
Less risk premium	1.00% per classroom guidance
Risk-free rate	4.00%
Industry Beta	0.77 10 Yr Monthly Regression
Market Risk Premium	5.00% = Mkt Return - risk free rate
Cost of Equity	7.85%
Cost of Debt	5.75% = risk free + 75bps (A rated)
Tax rate	30% See attached
MV Equity (\$MM)	17,800 Mkt cap 4/20/2006
E/V	99%
MV Debt (\$MM)	232 BV as of 12/2005
D/V	1%
<b>WACC</b>	<b>7.80%</b>

As can be observed below, the valuation is quite sensitive to WACC. However, we are confident in our calculations and believe that a WACC of 7.80% is accurate.



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